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BRODIX'S AMERICAN AND ENGLISH PATENT CASES.

VOL. XIX.

DECISIONS

ON THE LAW OF

PATENTS FOR INVENTIONS

RENDERED BY

THE UNITED STATES SUPREME COURT

FROM THE BEGINNING.

THIS VOLUME FROM

128 U. S. - - - - - 132 U. S.
1888. 1889.

EDITED AND ANNOTATED

BY

WOODBURY LOWERY.

WASHINGTON, D. C.

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EXPLANATION OF NOTES.

The Text of the Opinion.

The text of the opinion of the Court is taken wholly from the record, and not from the official reporter. The reason for this is that the record is the original source from which the reporter himself obtains his matter; that it is complete, no cases decided by the Court being omitted therefrom; that on application to the Clerk of the Court for a certified copy of an opinion, it is the copy of the opinion as it appears in the record, and not as printed in the official report that he furnishes.

Prominent among the advantages secured by printing the record, is the fact that the statement of the case, involving all those facts which the Court considers material to the understanding of its opinion is made by the Court itself, strictly in view of its decision, concisely and judicially, whereas the official reporters, Wallace and Otto, have omitted whole pages of the statement as made by the Court, substituting their own, or have so amended and varied the Court's statement as to make it practically a new one. The case of *Packing Company Cases*, reported in volume 14, p. 49, is a notable example, on consulting which the foot-notes appended will be found to point out the variation of the official reporter from the original record.

It will also be observed that this practice of these reporters has often been the cause of omitting in their reports the introductory part of the opinion as given in the record, supplying it from their own point of view and actually beginning the report of the opinion at an intermediate point of the record.

The text in this work has been prepared from printed certified copies of the record, and has undergone a second comparison while in type before printing, made directly with the original record in the Supreme Court, giving an assurance that no effort has been spared to secure accuracy.

EXPLANATION OF NOTES.

It has further been compared with the officially published reports and the divergencies of the latter from the record, pointed out in foot-notes to each case where they occur, in justification of the course pursued by the editor, and for the convenience of the profession.

The Syllabi, or The Head-Notes.

The head-notes have been prepared with care and considerable elaboration, the editor deeming it more convenient to the profession that he should err on the side of too great minutia in calling their attention even to what may be regarded as *dicta* of the Court. At the end of each head-note will be found, between brackets, the page of the opinion of which it is a digest. The head-notes are numbered consecutively, and at the end of each case there will be found under the corresponding number of the head-note a note of Supreme Court Patent Cases, in chronological order, relative to the subject-matter of the head-note.

The Annotations, or Notes at Ending of Case.

Notes at ending of case are of three kinds: Those in the form of notes to the head-notes; those relating to the patent in suit; and those relating to cases in which the particular case reported has been cited.

Notes to the head-notes. These consist of Supreme Court Patent Cases, arranged in chronological order, in which the substance of the head-note has been restated, affirmed, or applied, as the case may be; these have been brought down to the latest decisions of the Court, accessible at the date of printing the volume.

The Patent in suit is next given with its reissues, if any, followed by a chronological list of all reported Federal suits in which the patent has been involved.

Citations of the particular opinion. Then follows a list of those cases in which the opinion reported has been cited. This list includes Federal, State, and Canadian Cases, opinions of the Attorney-General, and of the Commissioner of Patents, and the latest text-books, Curtis, 4th Edit., Walker, Merwin, Abbott and Robinson.

All the lists are chronological in arrangement, and in the list of citations the dates are appended.

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To facilitate the finding of any case appearing in the notes, not only is the original report given, but also volume and page of Robb, Fisher, Banning and Arden, and others in which it is reprinted.

Both in the opinion and arguments the rule has been followed of adding the *names* to cases cited by page and volume only, these additions to the text being included in brackets.

Blank-lined spaces after each note and a blank page at the end of each case are left for the insertion of additional citations and of general notes.

Tables.

There are added a number of tables and two indexes for ready reference. These are Tables of Cases, Reference Table of Cases, Table of Patents in Suit, of Cases Cited, of Abbreviations, of Names of Justices, of Names of Counsel, an Index Digest, and a Digest of Notes.

Reference is made throughout the work to the volume and page of the English cases already published as part of this series, whenever they occur.

WOODBURY LOWERY.

WASHINGTON, D. C.

September 1, 1891.

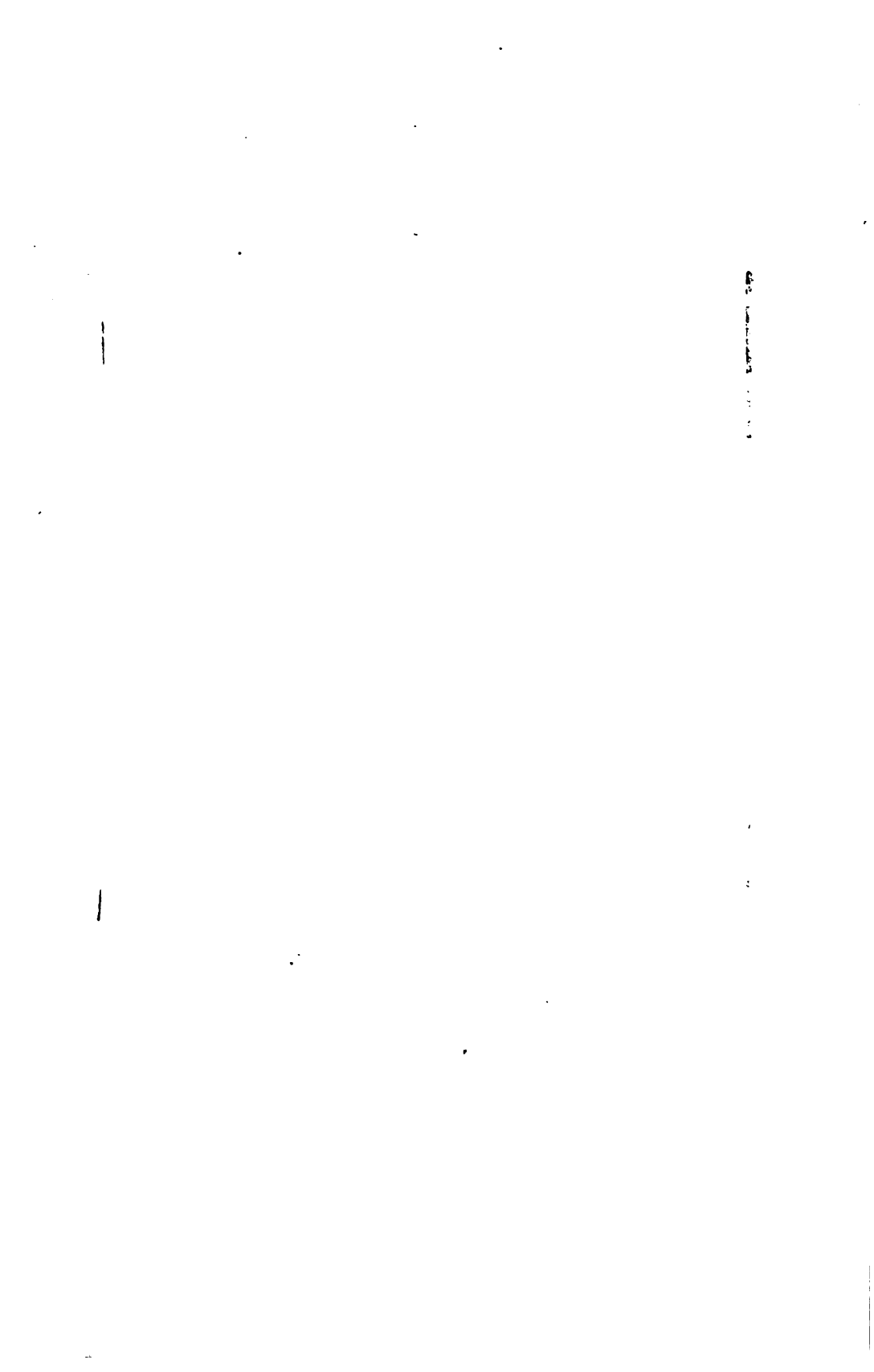
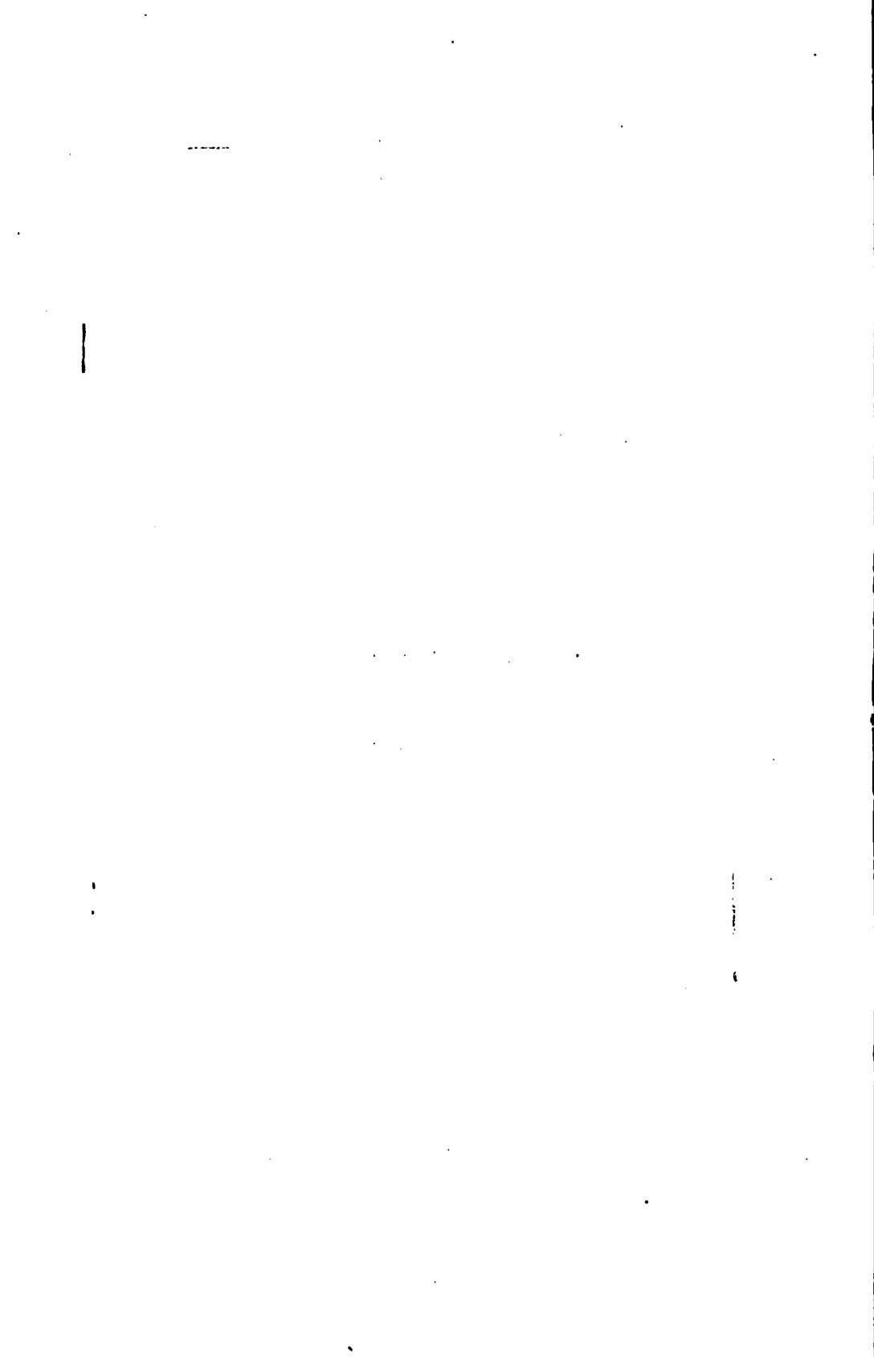


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OF THE OFFICIAL REPORTS AND THIS VOLUME.

The object of comparing the pages in these cases is for convenience of reference showing where the text in the opinion of the Court on each page of the Official Report is found in this edition, or if an attorney wishes to cite the Official Reports while using these volumes, he can readily do so by turning to this table and finding on what page in the Official edition any page of the Opinion of the Court in this volume may be found.

In making this comparison, out of justice to ourselves, where we have inserted new material, such as drawings, specifications, arguments of counsel, statements, and parts of the opinion from the records which are not found in the Official edition, we have so indicated.

As an example in the use of this table take the case of *Siemens v. Sellers*, in Vol. 17, which begins in 123 U. S. on page 276—see first column; in Vol. 17, page 284—see third column; the opinion of the Court begins in U. S. on page 276—see second column; in our volume, page 327—see fourth column, and thus through the opinion each page is compared. We have inserted in this volume many drawings and specifications which are not found in the Official Reports, and omissions in the consecutive numbering of the pages can be accounted for in this manner.

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Abb. Pat. Laws	Abbott's Patent Laws of all Nations.
Abb. U. S.	Abbott, U. S. Circuit Court.
Abb. U. S. Prac.....	Abbott's U. S. Practice Cases.
Adams Eq.....	Adams Equity.
Ad. & Ell. (N. S.).....	Adolphus & Ellis, England, K. B.
Alb. L. J.....	Albany Law Journal.
Am. Law Jour.....	American Law Journal.
Am. Law Reg. (N. S.).....	American Law Register (New Series).
Am. & Eng	American & English Patent Cases.
Angell & Ames Corp	Angell & Ames on Corporations.
App. Cas.....	Appeal Cases, English Law Reports.
Ark.....	Arkansas Reports.
Atk... ..	Atkyn Chancery Reports, England.
Att'y Gen.....	Attorney General's Decisions.
B. & A.....	Banning & Arden's Patent Cases, U. S.
B. & Ad.....	Barnewall & Adolphus, England, K. B.
B. & Ald.....	Barnewall & Alderson, England, K. B.
B. & C.....	Barnewall & Cresswell, England, K. B.
Bald.....	Baldwin, U. S. Circuit Court.
Ban. & Ard.....	Banning & Arden's Patent Cases, U. S.
Barb	Barbour's New York Chancery Reports.
Barb. Ch. Pr.....	Barbour's Chancery Practice.
Barn. & C.....	Barnewall & Cresswell's English King's Bench Reports.
Beav	Beavan's English Rolls Court Reports.
Best & S.....	Best & Smith, England, Q. B.
Bing. (N. C.).....	Bingham's New Cases, England, C. P.
Binn.....	Binney's Pennsylvania Reports.
Biss	Bissell, U. S. Circuit Court.
Black.....	Black, U. S. Supreme Court.
Blach	Blatchford, U. S. Circuit Court.
B. Mon.....	Ben. Monroe's Kentucky Reports.
Bond	Bond, U. S. Circuit Court.
Bos. & P. N. R.....	Bosanquet & Puller's New Reports, England.

Bradw	Bradwell's Illinois Reports.
Brews.....	Brewster's Pennsylvania Reports.
Bright. Fed. Dig.....	Brightly's Federal Digest.
Brock.....	Brockenbrough, U. S. Circuit Court.
Brodix.....	Brodix's American & English Patent Cases.
Bump.....	Bump on the Law of Patents.
Burr.....	Burrows' English King's Bench Reports.
C. B. (N. S.).....	Common Bench Reports, New Series.
C. D.....	Commissioner of Patents' Decisions, U. S.
C. P.....	Common Pleas, England.
C. & F.....	Clark & Fennelly's House of Lords Reports, England.
Cai. Cas.....	Caines' New York Cases in Error.
Car. & Kir.....	Carrington & Kirwan, England, N. P.
Car. & M.....	Carrington & Marshman's English Nisi Prius Reports.
Ch. Div.....	Chancery Division, English Law Reports.
Cl. & F	Clark & Fennelly's House of Lords Reports.
Cliff.....	Clifford, U. S. Circuit Court.
Coke	Coke's English King's Bench Reports.
Com. Bench.....	Common Bench Reports, England.
Com. Dec	Commissioner of Patents' Decisions, U. S.
Cond. (Repa.).....	Peters' Condensed Reports, U. S. Supreme Court.
Coop. temp. Cott.....	Cooper's Cases, <i>temp.</i> Cottenham, English Chancery.
Cow.....	Cowen's New York Reports.
Cranch.....	Cranch, U. S. Supreme Court.
Cro. Eliz.....	Croke's English King's Bench Reports.
Ct. of Claims.....	Court of Claims, U. S.
Curt.....	Curtis, U. S. Circuit Court.
Curtis on Pats.....	Curtis on Patents, U. S.
Cush.....	Cushing's Massachusetts Reports.
D. & R.....	Dowling & Rylands, England.
Dall.....	Dallas, U. S. Circuit Court.
Dan. Ch. Pr.....	Daniell's Chancery Practice.
Dav	Davies' Patent Cases, England.
De G. & J.....	De Gex & Jones' English Chancery Reports.
De G. M. & G.....	De Gex, Macnaghten & Gordon, England, Chancery.
Del. Ch.....	Delaware Chancery Reports.
Denio.....	Denio's New York Reports.
Dev	Devereaux, North Carolina Law Reports.
Dev. & B	Devereaux & Battles' North Carolina Reports.
Dick	Dickens English Chancery Reports.
Dill.....	Dillon, U. S. Circuit Court.
Doug.....	Douglas' Michigan Reports.

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Drew. & S.....	Drewry & Smale's English Vice-Chancellor's Reports.
Dwar.....	Dwarris on Statutes.
E. C. L. R.....	English Common Law Reports.
East.....	East, England, K. B.
Ell. & Bl.....	Ellis & Blackburn, England, Q. B.
Eng. C. L. (C. B. N. S.) ..	English Common Law Reports.
Eng. L. & E.	English Law & Equity Reports.
Exch. W. H. & G.....	Exchequer Reports (Welsby, Hurlstone & Gordon), England.
Fed. Rep.....	Federal Reporter, U. S.
Fish.....	Fisher's Patent Cases, U. S.
Fish. Pat. Rep	Fisher's Patent Reports, U. S.
Flipp.....	Flippin, U. S. Circuit Court.
Gall.....	Gallison, U. S. Circuit Court.
Gen. Ord. Ch.....	General Order of the High Court of Chancery.
Gill.....	Gill's Maryland Reports.
Gilp.....	Gilpin's U. S. District Court Reports.
Godb.....	Godbolt's English King's Bench Reports.
Good. Pats.....	Goodeve's Abstract of Patent Cases.
Godson on Pats.....	Godson on Patents, England.
Gratt.....	Gratton's Virginia Reports.
Gray.....	Gray's Massachusetts Reports.
Greenl. Ev.....	Greenleaf on Evidence.
H. Bl.....	Henry Blackstone, England, C. P.
H. of L.....	House of Lords' Cases.
H. & N.....	Hurlstone and Norman, England, Exch.
Halst. Ch.....	Halstead's New Jersey Reports.
Hare.....	Hare's Vice-Chancellor's Reports, England.
Har. & Gill.....	Harris & Gill's Maryland Reports.
Hardw.....	Hardwicke.
Har. & McH.....	Harris & McHenry's Maryland Reports.
Hawks.....	Hawkes' North Carolina Reports.
Hemp.....	Hempstead, U. S. Circuit Court.
High Ex. Rem.....	High on Extraordinary Legal Remedies.
Hill.....	Hill's New York Reports.
Hind. Pat.....	Hindmarch on Patents, England.
Hoff. Ch. Pr.....	Hoffman's Chancery Practice.
Holmes.....	Holmes, U. S. Circuit Court.
Hopkins.....	Hopkins' New York Reports.
How.....	Howard, U. S. Supreme Court.
Hughes.....	Hughes, U. S. Circuit Court.
Hurls. & Colt.....	Hurlstone & Coltman, England, Exch.
Hurls. & Nor.....	Hurlstone & Norman, England. Exch.
Ir. Ch.....	Irish Chancery Reports.
Ired. Eq.....	Iredell's North Carolina Equity Reports.
Ill.....	Illinois Reports.

Iowa.....	Iowa Reports.
J. & W.....	Jacob & Walker, Chancery Reports, England.
J. B. Moore.....	J. B. Moore, England, C. P.
Jacob.....	Jacob's Chancery Reports, England.
Jac. & W.....	Jacob & Walker's English Chancery Reports.
Johns.....	Johnson's New York Reports.
Jur. (N. S.).....	The Jurist, New Series, London.
Kay & J.....	Kay & Johnson's English Vice-Chancellor's Reports.
Kerr Inj.....	Kerr on Injunctions.
L. ed.....	Lawyer's Edition of Supreme Court Reports.
L. J. (N. S.) C. P.....	Law Journal, New Series, Common Pleas.
L. J. (N. S.) Q. B.....	The Law Journal, New Series, London, Queen's Bench.
L. R. C. P.....	English Law Reports, Common Pleas.
L. R. Ch. App.....	English Law Reports, Chancery Appeals.
L. R. Eq.....	English Law Reports, Equity.
L. R. Q. B. Div.....	English Law Reports, Queen's Bench Division.
L. Times (N. S.).....	Law Times, New Series.
Law's Dig.....	Law's Digest, London.
Law T. (N. S.).....	Law Times Reports, New Series.
Leg. Int.....	Legal Intelligencer.
Lev.....	Leving's English King's Bench Reports.
Lindley Part.....	Lindley Laws of Partnership.
Lowell.....	Lowell, U. S. District Court.
M. & Cr.....	Mylne & Craig, England, Ch.
M. & W.....	Meeson & Welsby, England, Exch.
MacA.....	MacArthur's District of Columbia Reports.
MacA. & McK.....	MacArthur & Mackey.
McAll.....	McAllister, U. S. Circuit Court.
McC.....	McCrary, U. S. Circuit Court.
McL.....	McLean, U. S. Circuit Court.
Mackey.....	Mackey, U. S. Circuit Court.
Man. G. & Scott.....	Manning, Granger & Scott, England, C. P.
Mann. & G.....	Manning & Granger's English Common Pleas Reports.
Marsh.....	Marshall, England, C. P.
Mas.....	Mason, U. S. Circuit Court.
Mass.....	Massachusetts Reports.
Maule & S.....	Maule & Selwyn's English King's Bench Reports.
Me.....	Maine Reports.
Mees. & W.....	Meeson & Welsby, England, Exch.
Merwin on Pat. Invt.....	Merwin on Patentability of Inventions.
Met.....	Metcalf's Massachusetts Reports.
Mitf. Ch. Pl.....	Mitford's Equity Pleading.

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Mod.....	Modern Reports, England, K. B.
Moore & S.	Moore & Scott, England, C. P.
Ms. D. C.....	Manuscript Cases, District of Columbia.
Mumf.....	Mumford's Virginia Reports.
Myl. & Cr.....	Mylne & Craig, England.
Neb.....	Nebraska Reports.
N. J. L.	New Jersey Law Reports.
N. Y.....	New York Court of Appeals Reports.
New Eng. R.	New England Reporter.
O. G.....	Official Gazette of Patent Office, U. S.
Off. Gaz.....	Official Gazette of Patent Office, U. S.
Otto	Otto, U. S. Supreme Court.
P. Wm.....	Peere, Williams' Reports, England.
Pa.....	Pennsylvania Reports.
Pac. L. R.....	Pacific Law Reporter.
Paige Ch. R.....	Paige's New York Chancery Reports.
Paine.....	Paine, U. S. Circuit Court.
Pet.....	Peters, U. S. Supreme Court.
Phila.....	Philadelphia Reports.
Phill.....	Phillips.
Pick.....	Pickering's Massachusetts Reports.
Pitts. R.	Pittsburgh Reports.
Pom. Eq. Jur	Pomeroy's Equity Jurisprudence.
Pott. Dwaris.....	Potter's Ed. of Dwaris on Statutes;
Q. B.....	Queen's Bench Reports.
Q. B. Div.....	Queen's Bench Division, Law Reports, Eng- land.
R. & M.....	Russell and Mylne, England, Ch.
Rep.....	The Reporter, U. S.
Robb.....	Robb's Patent Cases.
Salk.....	Salkeld, England, K. B.
Sandf.....	Sanford's New York Superior Court.
Sawy.....	Sawyer, U. S. Circuit Court.
Scam.....	Scammon's Illinois Reports.
Sch. & Lef.....	Schoales & Lefroy's Irish Chancery Reports.
Sch. Pers. Props.....	Schonler, on the Laws of Personal Property.
Scott (N. R.).....	Scott's New Reports, England, C. P.
Seld.....	Selden's Reports (5-10 N. Y. Court of Ap- peal's.)
Sheps. Abr.....	Sheppard's Abridgement.
Sim. & S.....	Simon & Stuart's English Vice Chancery Reports.
Sm. Lead. Cas.....	Smith's Leading Cases.
Smith Ch. Pract.....	Smith's Chancery Practice.
Story.....	Story, U. S. Circuit Court.
Story Eq. Jur.....	Story on Equity Jurisprudence.
Sumn	Sumner, U. S. Circuit Court,

Sup. Ct. Rep. N. Y.....	Supreme Court Reports, New York.
T. R.....	Term Reports (Durnford & East), England.
Taney.....	Taney, U. S. Circuit Court.
Taunt.....	Taunton, England, C. P.
Term R.....	Term Reports (Durnford & East), England.
Tex.....	Texas Reports.
Ure Dict.....	Ure's Dictionary of Arts.
U. S.....	United States Supreme Court Reports.
U. S. Law. Jour.....	United States Law Journal.
Ves.....	Vesey, England, Ch.
Vern.....	Vernon, England, Ch.
Vt.....	Vermont Reports.
W. & M.....	Woodbury & Minot, U. S. Circuit Court.
W. Va. Rep.....	West Virginia Reporter.
Walker on Pats.....	Walker on Patents.
Wall.....	Wallace, U. S. Supreme Court.
Wall. Jr.....	Wallace, Jr., U. S. Circuit Court.
Wash.....	Washington, U. S. Circuit Court.
Watts.....	Watts' Pennsylvania Reports.
Weekly Reps	Weekly Reporter, London.
Watts & S.....	Watts & Sergeant's Pennsylvania Reports.
Web. P. C.....	Webster's Patent Cases, England.
Web. on Sub. Mat. of Pats..	Webster on Subject Matter of Patents.
Wend.....	Wendell's New York Reports.
West H. L.....	West's House of Lords, Reports, England.
Whart. Dig.....	Wharton's Pennsylvania Digest.
Wheat.....	Wheaton, U. S. Supreme Court.
Whit.....	Whitman's Patent Cases, U. S.
Wood. & M.....	Woodbury & Minot, U. S. Circuit Court.
Woods.....	Woods, U. S. Circuit Court.

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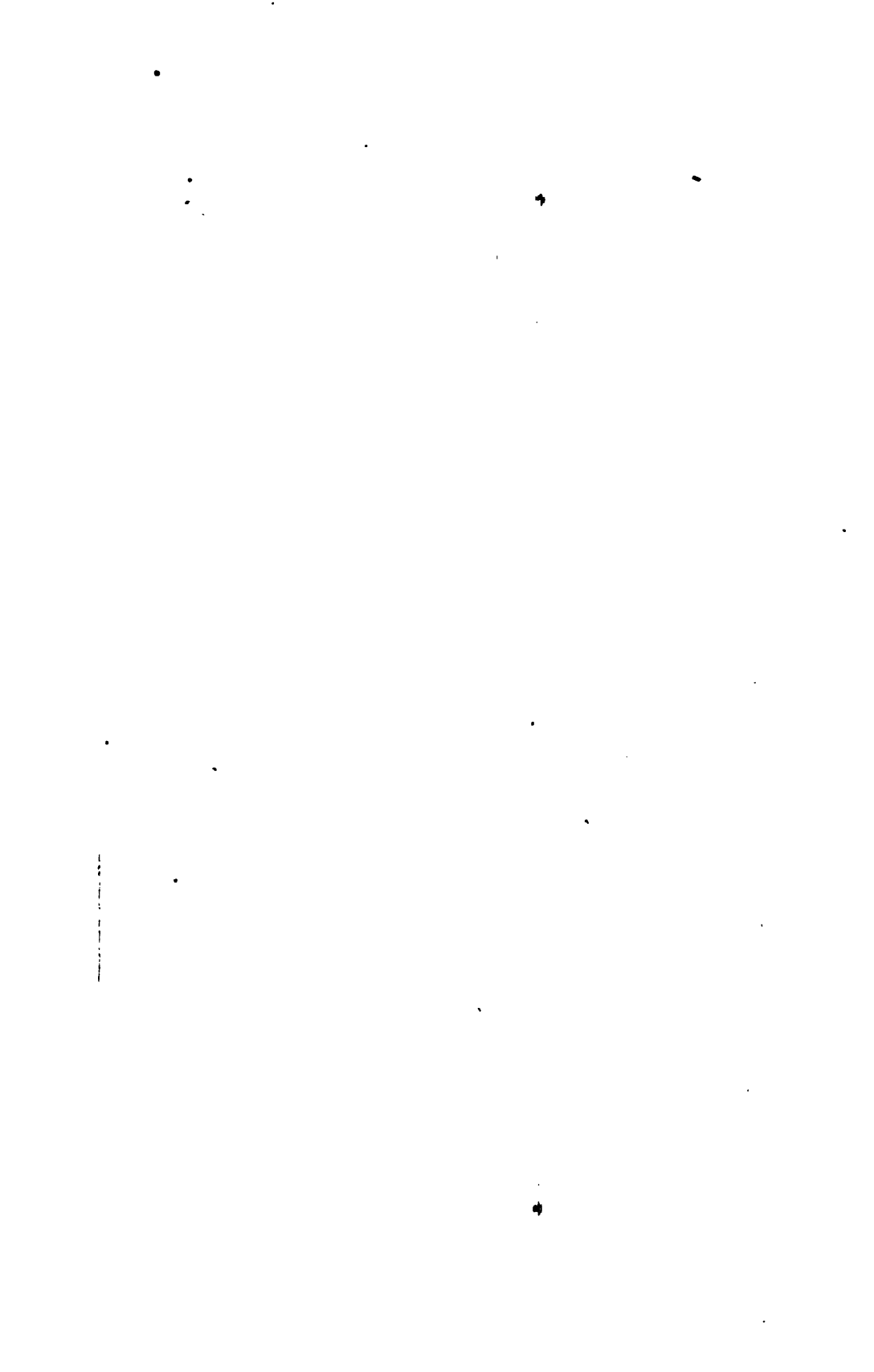
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- Mr. Arthur Stem, for Appellee. *Peters v. Active Mfg. Co.*, p. 568.
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- ——— ——— ——— for Appellees. *Peters v. Hanson*, p. 410.
- ——— ——— ——— for Appellee. *Peters v. Active, Mfg. Co.*, p. 393.
- ——— ——— ——— for Appellee. *Farmer's Co. v. Challenge Co.*, p. 87.
- Mr. Benj. F. Thurston, for Appellants. *Morley Co. v. Lancaster*, p. 322.
- ——— ——— ——— for Appellee. *Bate Ref. Co. v. Hammond & Co.*,
p. 235.
- Mr. A. G. N. Vermilya, for Appellee, in opposition. *Ballard v. Searls*,
p. 443.
- Mr. E. A. West, for Appellant. *Hurlbut v. Schillinger*, p. 544.
- ——— ——— ——— for Appellees. *Pattee Plow Co. v. Kingman & Co.*,
p. 373.

- — — — — for Appellee. *Kennedy v. Hazelton*, p. 122.
- Mr. E. Wetmore, for Appellees. *Brush & Brush Elec. Co. v. Condit*,
p. 593.
- Mr. Henry Wheeler, for Appellees. *Wade v. Metcalf*, p. 258.
- Mr. Charles S. Whitman, for Appellant. *Anderson v. Miller*, p. 224.
- Mr. W. C. Whitter, for Appellants. *Brush & Brush Elec. Co. v. Condit*,
p. 592.
- Mr. Jno. S. Wise, for Appellees. *Anderson v. Miller*, p. 225.
- Mr. E. E. Wood, for Appellee. *Rude v. Wescott*, p. 530.
- — — — — for Appellant. *Farmer's Co. v. Challenge Co.*, p. 86.
- Mr. A. S. Worthington, for Appellant. *Brown v. District of Columbia*,
p. 492.



DECISIONS
OF
THE SUPREME COURT
OF
THE UNITED STATES
IN
PATENT CASES.

THE CRESCENT BREWING COMPANY, APPELLANT, *v.* MATTHEW GOTTFRIED.*

128 U. S. 153-170. October Term, 1888.

[Bk. 32, L. ed., 390; 45 O. G. 944.]

Reversing *Gottfried v. Crescent Brewing Co.*, 13 Fed. Rep. 479; 22 O. G. 1447.

Argued October 19, 22, 23, 1888. Decided November 5, 1888.

Claim construed to be for mechanism, and not a process. Invention. Analogous use. Particular patent void.

1. Claim 1 of letters patent, No. 42,580, Holbeck & Gottfried, May 3, 1864, Pitching Barrels, for "The application of heated air under blast to the interior of casks by means substantially as described, and for the purpose set forth," construed to be a claim for the mechanism, and not for a process. The claim distinguished from *Lawther v. Hamilton* (124 U. S. 1; 17 Am. & Eng. 396), and *held*, so far as

* See Explanation of Notes, page III.

2 CRESCENT BREWING Co. v. GOTTFRIED. [Sup. Ct.]

Argument of counsel.

it is a claim to a process, to be anticipated; and that as a claim for the apparatus it was merely the application of an old apparatus to a new use without any change of its constituent elements or its mode of operation. (p. 14.)

2. Claim 2 for "The use of a removable conductor, *E*, in combination with a furnace and blowing apparatus, arranged and operated substantially as described." *Held*, not infringed by defendant's apparatus, which had no removable conductor corresponding to conductor *E*. (p. 16)

[Cited in the opinion of the court:]

Gottfried v. Crescent Brewing Co., 9 Fed. Rep. 762; 22 Off. Gaz. Pat. Off. 297. p. 10.

Gottfried v. Crescent Brewing Co., 13 Fed. Rep. 479. p. 11.

Gottfried v. Bartholomae, 3 Ban. & A. 308. p. 11.

Gottfried v. Phillip Best Brewing Co., 5 Ban. & A. 4; 17 Off. Gaz. Pat. Off. 675. p. 11.

Gottfried v. Conrad Seipp Brewing Co., 10 Biss. 368; 8 Fed. Rep. 322. p. 12.

Gottfried v. Stahlman, 13 Fed. Rep. 673. p. 12.

Lawther v. Hamilton, 124 U. S. 1 [17 Am. & Eng. 396]. p. 14.

Appeal from the Circuit Court of the United States for the District of Indiana, to review a decree in favor of plaintiff in a suit for infringement of letters patent.

The facts are stated in the opinion.

Mr. ROBT. H. PARKINSON, for appellant.

The application of an old machine to a new use is not a patentable invention.

Bean v. Smallwood, 2 Story, 408; Phillips v. Page, 24 How. 164 [7 Am. & Eng. 97]; Sawyer v. Bixby, 9 Blatch. 361; Smith v. Nichols, 21 Wall. 112 [9 Am. & Eng. 425]; Roberts v. Ryer, 91 U. S. 150 [10 Am. & Eng. 302]; Brown v. Piper, 91 U. S. 37 [10 Am. & Eng. 272]; Morton v. New York Eye Infirmary, 5 Blatch. 116; Hotchkiss v. Greenwood, 11 How. 248 [5 Am. & Eng. 240]; Moffitt v. Rogers, 8 Fed. Rep. 147.

The measure of damages is the plaintiff's actual loss, and

Argument of counsel.

not what is made by the defendant, or what might have been made by the defendant, or what is the speculative value of the invention.

McComb v. Brodie, 1 Woods, 153; Sanders v. Logan, 2 Fish, 167; Cowing v. Rumsey, 8 Blatch. 36; Ransom v. New York, 1 Fish. 252; N. Y. v. Ransom, 23 How. 487 [7 Am. & Eng. 88]; Seymour v. McCormick, 16 How. 480; Zane v. Peck, 13 Fed. Rep. 449; McCormick v. Seymour, 3 Blatch. 209; Packet Co. v. Sickles, 19 Wall, 611 [9 Am. & Eng. 280]; Birdsall v. Coolidge, 93 U. S. 64 [10 Am. & Eng. 445]; Walker, Patents, 387 *et seq.*; Buck v. Hermance, 1 Blatch. 398.

The rule which is to govern the question of damages is, to give the actual damages, not vindictive or exemplary damages.

McCormick v. Seymour, Seymour v. McCormick, Sanders v. Logan, Ransom v. New York, New York v. Ransom, Birdsall v. Coolidge, Packet Co. v. Sickles, and McComb v. Brodie, *supra*; Garretson v. Clark, 15 Blatch. 70; Blake v. Robertson, 94 U. S. 728 [11 Am. & Eng. 266]; Marsh v. Seymour, 97 U. S. 348 [12 Am. & Eng. 53]; Black v. Munson, 14 Blatch. 265.

Expense in pursuing an infringer cannot be considered in estimating damages.

Day v. Woodworth, 13 How. 363; Teese v. Huntingdon, 23 How. 2 [7 Am. & Eng. 72]; Philp v. Nock, 17 Wall. 460 [9 Am. & Eng. 84]; Parks v. Booth, 102 U. S. 96; [12 Am. & Eng. 470]; Walker, Patents, 398.

When the article has once paid this tribute to the franchise it becomes thereby emancipated from all liability under it.

Sickels v. Borden, 3 Blatch. 535; Perrigo v. Spaulding, 13 Blatch. 389; Allis v. Stowell, 16 Fed. Rep. 733; Steam Stone Cutter Co. v. Windsor Mfg. Co. 17 Blatch. 24; Booth v. SeEVERS, 19 Off. Gaz. 1140; Parks v. Booth, *supra*.

MESSRS. EPHRAIM BANNING and THOMAS A. BANNING, for appellee:

Opinion of the Court.

All the characteristics of the Gottfried-Holbeck invention must be found in the prior uses, patents, or publications, by plain statement or necessary conclusion, before such uses, patents, or publications can be held sufficient to invalidate the complainant's patent.

Parks v. Booth, 102 U. S. 103 [12 Am. & Eng. 470]; *Bates v. Coe*, 98 U. S. 48 [12 Am. & Eng. 150]; *Imhaeuser v. Buerk*, 101 U. S. 660 [12 Am. & Eng. 443]; *Fermentation Co. v. Maus*, 122 U. S. 428 [17 Am. & Eng. 157]; *Gottfried v. Bartholomae*, 3 Ban. & A. 311.

Damages of a compensatory character may be allowed to a complainant in an equity suit, where it appears that the business of the infringer was so improvidently conducted that it did not yield any substantial profits.

Marsh v. Seymour, 97 U. S. 360 [12 Am. & Eng. 53]; *Latta v. Shawk*, 1 Fish. 472; *Wintermute v. Redington*, *Id.* 251; *Carter v. Baker*, 4 Fish. 419.

The profits made by the defendants in selling the machines are proper to be given as a part of the damages.

Pitts v. Hall, Fish. Pat. Rep. 450; *Bell v. Daniels*, 1 Fish. 379; *Cowing v. Rumsey*, 4 Fish. 275; *Whittemore v. Cutter*, 1 Robb, 45; *Philp v. Nock*, 17 Wall. 462 [9 Am. & Eng. 84]; *Parker v. Hulme*, 1 Fish. 56; *Campbell v. Barclay*, 5 Biss. 180; *Burdell v. Denig*, 92 U. S. 719 [10 Am. & Eng. 420].

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought in March, 1881, in the Circuit Court of the United States for the District of Indiana, by Matthew Gottfried against the Crescent Brewing Company, founded on the alleged infringement by the defendant of letters patent, No. 42,580, granted May 3, 1864, to J. F. T. Holbeck and Matthew Gottfried, for an "improved mode of pitching barrels."

The specification, claims, and drawings of the patent are as follows:

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"Be it known that we, J. F. Th. Holbeck and Matthew Gottfried, both of Chicago, County of Cook and State of Illinois, have invented a new and useful improvement in pitching barrels, etc.; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which

"Fig. 1 is a longitudinal section taken in a vertical plane through the center of the apparatus which we employ in the operation of pitching barrels, etc. Fig. 2 is a horizontal section taken in the course indicated by red line *xx* in Fig. 1. Figs. 3 and 4 are views of the tabular closing guard which is applied to the barrels or casks in the operation of heating them. Similar letters of reference indicate corresponding parts in the several figures.

"Before filling casks with spirituous or volatile liquids, it is necessary to render the casks impervious to air, the most common and probably the cheapest method of doing which has been to flow melted pitch or other substance into the pores and joints of the casks while they are in a heated state; but the difficulties hitherto attending this process arise in consequence of a want of some economical means of heating the casks without burning or seriously charring their inside surfaces.

"My invention has for its object the preparation of casks for receiving pitch or other melted substance suited to the object in view, by subjecting said casks to blasts of highly heated air by means of an apparatus which will be hereinafter described. To enable others skilled in the art to understand our invention, we will describe its construction and operation.

"In the accompanying drawings we have represented one mode of carrying our invention into effect, which consists of a furnace constructed of masonry, as represented by A, Figs. 1 and 2. This furnace is of rectangular form, and has a vertical central opening, A', through it. Near the base of

Opinion of the Court.

the furnace is a grate *a*, beneath which is the ash-pit, *b*, and above which is a fire-chamber, *c*, which is covered by a lid, *c'*, as shown in Fig. 1.

"An opening, *d*, is made through the side of furnace *A*, which forms an external communication with an internal chamber, *A'*, either below the grate or above this grate, as shown in Fig. 1. This opening, *d*, communicates with a fan-case, *B*, arranged outside of the furnace, and furnished with a series of rotary wings or fans, *e e*, which may be rotated by any convenient motive power.

"The fans *e e*, create a blast of air through the furnace-chamber *A'*; this air rushing through the opening *d*, and through the fire which is built upon the grate *a*, is allowed to escape through the passage *d'* near the top of the furnace.

"Between this passage *d'* and the cask which it is desired to heat, I form a communication by means of a detachable pipe, *E*, which connects with a short pipe, *E'*, that is secured around the passage *d'*, as shown in Figs. 1 and 2.

"The removable pipe *E* may be made conical, as represented, so that the opening through the head of the cask *D* need not be very large, and this pipe is provided with a bow handle, *g*, by means of which the pipe can be removed or adjusted in place without liability of burning the hands. The contracted end of pipe *E* enters a short tube, *h*, which passes through and is suitably affixed to a covering plate, *i*, that is used to close or partially close the opening, *j*, which is made through the head of the cask. This plate *i* should be somewhat larger than the opening through the head of the cask, and this opening should be of such form as to admit plate *i*, and to allow of this plate being adjusted, as represented in Fig. 1. When this plate *i* is adjusted on the inner side of the cask-head, opposite the openings there through, it may be confined in place by means of a key, *k*, which is passed between a flange formed on the projecting outer portion of the short pipe *h* and the head of the cask, as represented in Figs. 1 and 2.

HOLBECK & GOTTFRIED.

Pitching Casks

No. 42,580.

Patented May 3, 1864.

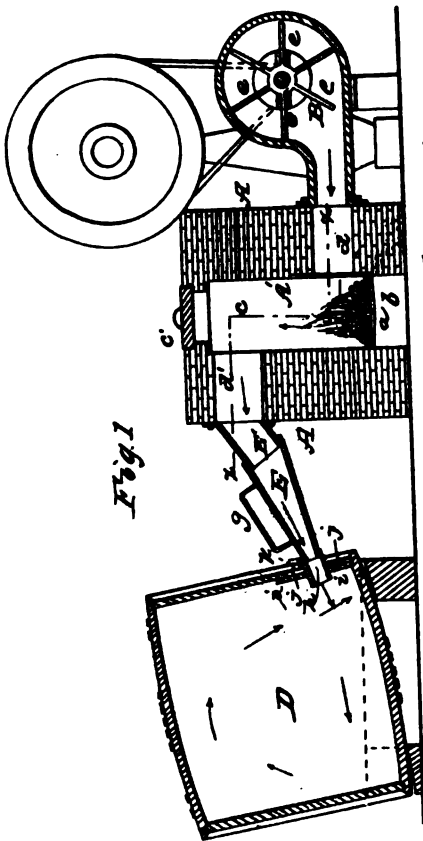
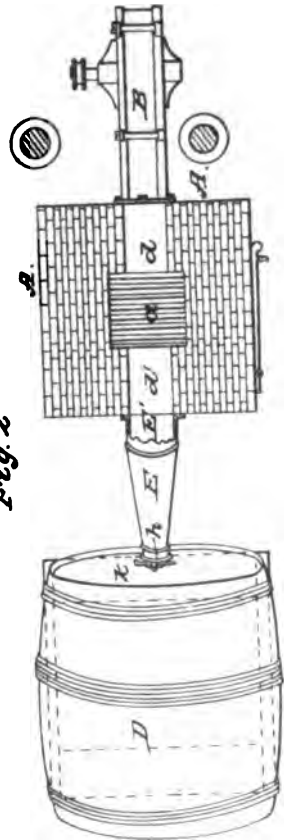


Fig. 1

Fig. 3 Fig. 4



Fig. 2



Witnesses
R. Campbell
C. Schaffner

Inventor
J. H. A. Michener
by his atty.
Mason, Smith & Johnson

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"When a cask which it is desired to render impervious to air is adjusted in proper position, and a communication formed between it and the furnace A, as above described, a fire is made upon the grate *a*, and by means of the blast-fan applied to the furnace, the heated products of combustion are forced into the cask, and allowed to escape therefrom through an opening at the bottom of covering-plate *i*, as indicated by the arrows in Fig. 1.

"When the cask thus subjected has become properly heated, so that the resin substance within it will readily flow into the pores and cracks or joints in the wood, the parts *i* and E are removed, the opening through the head of the cask properly closed, and the cask rolled about until the melted resin has permeated every pore and interstice in its inside surface.

"Having thus described our invention, what we claim as new, and desire to secure by letters patent, is:

"1st. The application of heated air under blast to the interior of casks by means substantially as described, and for the purposes set forth.

"2d. The use of a removable conductor, E, in combination with a furnace and blowing apparatus, arranged and operated substantially as described.

"3d. The tube-holding plate *i*, in combination with the removable pipe E and blast furnace A, substantially as and for the purposes described."

Infringement is alleged only of claims 1 and 2.

The defendants put in an answer to the bill, a replication was filed, and proofs were taken on both sides. The issue of novelty and patentability was warmly contested. The principal matters relied on in the proofs to show want of novelty in the invention were English letters patent, No. 6901, granted to C. P. Devaux, October 8, 1835; English letters patent, No. 9924, granted to Davison and Symington, November 2, 1843; English letters patent, No. 12,918, granted to Cochrane and Slate, January 3, 1850; a description found in a volume, entitled "Tomlinson's Cyclopedia of Useful Arts,

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London and New York, 1854," Vol. II. Ham-Zir, page 665, and Fig. 2015, the thing described being known as the "Pewterer's Blast;" a description found in a volume published at Braunschweig, in 1854, called "Handbuch für Bierbrauer," at pages 116 to 118; the Seibel machine, first used early in 1857; and a description contained in a volume published at Leipsic, in Germany, in 1861, called "Der Bierbrauer," at page 138 *et seq.*

In January, 1882, the Circuit Court held by Judge GRESHAM delivered an opinion, in which it was held that the bill must be dismissed, on the ground that the patent was void for want of novelty. *Gottfried v. Crescent Brewing Co.* 9 Fed. Rep. 762, and 22 Off. Gaz. 297. The anticipations especially considered in the opinion of Judge GRESHAM were the Cochrane and Slate patent; the Seibel machine; and the "Bierbrauer" publication of 1861. A rehearing appears to have been had of the case, and, in September, 1882, Judge GRESHAM delivered an opinion (*Gottfried v. Crescent Brewing Co.* 13 Fed. Rep. 479), holding that he had given undue importance to the Cochrane and Slate patent, the Seibel apparatus, and the German publication, and that the patent was sustainable as a patent for mechanism. An interlocutory decree was entered, in October, 1882, holding the patent to be valid as to claims 1 and 2, and to have been infringed as to those claims, and referring it to a master to take an account of profits and damages. On the report of the master, a final decree was entered in favor of the plaintiff, in December, 1884, for a money recovery. From that decree the defendant has appealed to this Court.

(a). There has been, as appears by the reports, a good deal of litigation as to this patent.

In June, 1878, in *Gottfried v. Bartholomae*, 3 Ban. & A. 308, in the Circuit Court of the United States for the Northern District of Illinois, Judge BLODGETT held the patent to

(a). 128 U. S. begins opinion here inserting "after stating the case as above reported."

128 U. S. 162-163-165.

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be valid. The only anticipating devices which appear to have been considered by him were the Davison and Symington patent of November, 1843, and the Neilson and various other hot-air blasts in smelting furnaces.

The patent was sustained by the decision of the Circuit Court of the United States for the Eastern District of Wisconsin, held by Judge DYER, December 1, 1879, in *Gottfried v. Phillip Best Brewing Co.* 5 Ban. & A. 4, and 17 Off. Gaz. 675. The anticipations considered in the opinion of Judge DYER were the device of one Pierce; the Beck machine; the Davison and Symington patent; the Devaux patent; the Neilson hot-blast patent, granted in England in 1828; a patent granted in England to one Boville, in 1846; and a patent granted in England to Cochrane and Galloway, in 1818. The Cochrane and Slate patent, the "Pewterer's Blast," the two German publications, and the Seibel apparatus do not appear to have been considered in that case.

The next decision was in June, 1881, by Judge BLODGETT in the Circuit Court of the United States for the Northern District of Illinois, in *Gottfried v. Conrad Seipp Brewing Co.* 10 Biss. 368, and 8 Fed. Rep. 322. The question of novelty was not considered, and the bill was dismissed on the ground of non-infringement.

Then came the decisions in the present case.

In *Gottfried v. Stahlman*, 13 Fed. Rep. 673, in the Circuit Court of the United States for the District of Minnesota in October, 1882, Judges McCARY and NELSON concurred in the second decision of Judge GRESHAM in the present case, sustaining the validity of the patent.

It is also stated that Judge BAXTER, of the Sixth Circuit, held the patent to be valid.

It is quite apparent from the face of the specification, as it is clear upon the evidence, that the process of flowing melted pitch on the inside, into the pores and joints of casks which were to be filled with spirituous or volatile liquids, such flowing taking place while the casks were in a heated state,

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was not new. The specification states that a difficulty attended such process, because there was no economical means of heating the casks without burning or seriously charring their inside surfaces. It also states, that, in this view, the invention has for its object the preparation of casks for receiving the pitch, by subjecting them to blasts of highly heated air, by means of the apparatus described; that is, the invention is of the apparatus. The specification then describes it. The substance of it is an apparatus consisting of a fan-case arranged outside of a furnace, and furnished with a series of rotary wings or fans, which create a blast of air and force such blast into a chamber and through a fire built upon a grate in the chamber, and hence through such chamber and out of it, and by means of a pipe, into the cask which it is desired to heat, the heated products of combustion being thus forced into the cask and then allowed to escape therefrom, so that the cask will be properly heated to admit of the ready flow of the melted pitch into the pores and cracks or joints in the wood in the interior of the cask, when the cask is rolled about.

The 1st claim of the patent, namely: "The application of heated air under blast to the interior of casks by means substantially as described, and for the purposes set forth," is a claim to the means or apparatus described for applying the heated air under blast to the interior of the casks, and is a claim for mechanism, and not for a process. The evidence further shows that the process was old, and was fully developed in the Seibel apparatus. The only process that is embodied in the plaintiff's apparatus is the process of bringing the heated products of combustion, impelled by a blast of heated air rushing through the fire built upon the grate, into direct contact with the interior of the cask, and with the pitch which may cover the interior.

A Seibel apparatus, as used in St. Louis continuously from 1857, was put in evidence and has been produced before this Court. It is used by inserting it within the cask to be

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heated. It consists of an elongated furnace having a straight perforated cylindrical pipe extending horizontally the entire length along its bottom, one end of the pipe connecting by a conduit with a blower on the outside, which drives a blast of air through the pipe, the blast passing out through the perforations in the pipe and into and through the fire in the furnace on the top of the pipe, whence the products of combustion pass into the cask, into contact with its interior surface, and then out of the cask.

The process of the Seibel apparatus is the same as that of the plaintiff's apparatus. The furnace and its fuel are between the blower and the interior of the cask. The heated products of combustion, being the blast of air either wholly or partially de-oxygenated, pass from the fire directly into contact with the interior of the cask. So far as any process is concerned, the processes embodied in the two apparatuses are identical. The fact that in the plaintiff's apparatus the furnace is not thrust into the cask, and that the products of combustion are conducted into the cask through a pipe, does not affect the question of the process.

It is contended by the plaintiff that the 1st claim of the patent is for the process when applied or operated by an apparatus like that of the plaintiff's, situated outside of the cask, and not within it; and reference is made to the case of *Lawther v. Hamilton*, 124 U. S. 1 [17 Am. & Eng. 896], as sustaining the view that the mechanical means by which a process is applied may be an essential part of the process, and that the process is not anticipated unless the mechanical means of applying it, shown by the plaintiff, existed before, and were applied before to carry on the same process. But the true view of the case of *Lawther v. Hamilton* is this: *Lawther's* patent was for a process of working oil-seeds to obtain oil, by dispensing with the muller-stones before used to complete the grinding. The omission of the muller-stones produced more oil and better oil-cake. The seed, first crushed by heavy

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rollers, was passed directly from them into a mixing machine, without being operated upon by muller-stones, which had before been used for grinding and mixing. The crushing of the seed between powerful revolving rollers was retained in Lawther's process, and the seed was transferred immediately from them to a steam mixing machine. This Court said that while the invention was that of a process, it was limited, at least so far as the crushing of the seed was concerned, to the use of powerful revolving rollers to do such crushing. The crushing being stated in the specification to be of such character that each seed was individually acted upon, and the oil cells were fully crushed and disintegrated, the claim was for "the process of crushing oleaginous seeds and extracting the oil therefrom, consisting of the following successive steps, viz.: the crushing of the seeds under pressure, the moistening of the seeds by direct subjection to steam, and finally the expression of the oil from the seed by suitable pressure, as and for the purpose set forth." The crushing of the seed in the manner stated was a part of the process. Of course, it had to be done by some kind of instrumentality, and it was held to be part of the process that the kind of instrumentality should be powerful revolving rollers, whose effect would be to act upon each seed individually, and fully crush and disintegrate the oil cells; but the instrumentality or apparatus was not a part of the process, while the operation upon each seed by the kind of instrumentality described was a part of the process.

So far, therefore, as the 1st claim of the patent is a claim to a process, it is fully anticipated in the process carried on by means of the Seibel apparatus.

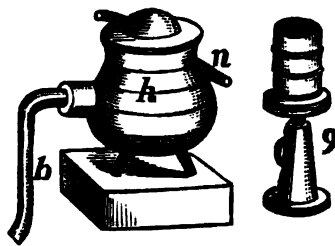
Considering the 1st claim of the patent as a claim to the apparatus used for applying the heated blast to the interior of the cask, the apparatus existed before. It is found in the Cochrane and Slate patent of 1850, which shows a blast passing through the fuel in a furnace, and a pipe extending from the furnace into the interior of a flask or mould

128 U. S. 167-168.

Notes and citations.

intended to be heated, through which pipe the blast, consisting of the heated products of combustion, was conveyed into such interior. The de-oxygenated blast was applied to the heating and drying of the inner walls of the receptacle into which it was carried. There was no invention in applying the apparatus to a cask instead of a flask. It would require only ordinary mechanical aptitude, and not invention, to make the mouth of the exit pipe carrying the heated products of combustion of a proper size to enter the bung-hole or other orifice of a keg or a cask, instead of entering a flask or mould.

So, too, the description of the "Pewterer's Blast" in Tomlinson's Cyclopaedia of 1854, shows the plaintiff's apparatus. It is there stated that the pewterers have a kind of blow-pipe, or hot-air blast, consisting of a common cast-iron pot with a close cover, containing ignited charcoal, and termed a hod. This pot has a nozzle leading into it, which supplies air from bellows worked by the foot, and another nozzle leading out of it, which directs the current of hot air upon the article to be soldered. The drawing of this apparatus is as follows:



In this apparatus there is a blast driven through a fire in a closed receptacle in such manner that the heated products of combustion are carried out of a nozzle and directed where needed. Whether the nozzle terminates in the air or in the interior of a cask or keg, or whether the de-oxygenated blast

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which leaves the nozzle is partially re-oxygenated or not before reaching its objective point, does not affect the identity of the apparatus.

In reference to both the Cochrane and Slate patent and the "Pewterer's Blast" apparatus, the patentees have at most merely applied an old apparatus to a new use, without any change of its constituent elements or of its mode of operation. In fact, the defendant's apparatus is, to all intents and purposes, a faithful copy of the "Pewterer's Blast" apparatus.

Under these views, it must be held that the 1st claim of the patent is invalid.

As to the 2d claim, there is no infringement, the defendant's apparatus having no removable conductor corresponding to the removable conductor E of the 2d claim. The defendant's pipe is screwed fast to the furnace and cannot be removed while the machine is in use. It is cast separate from the furnace, for convenience of renewal in case of the breakage of either it or the furnace. The movable conductor E is described in the specification of the patent as a pipe provided with a bow-handle, by means of which it can be removed or adjusted in place without liability of burning the hands. The defendant's pipe which enters the keg or cask is not removable or detachable in this sense.

For these reasons, the decree of the Circuit Court is reversed, and the case is remanded to that Court, with a direction to dismiss the bill of complaint, with costs.

128 U. S. 169-170.

Notes:

1. Patents construed to be for a machine and not for a process:

Corning v. Burden, 15 How. 252 [6 Am. & Eng. 69].
Railroad Co. v. Dubois, 12 Wall. 47 [8 Am. & Eng. 43].
LeRoy v. Tatham, 14 How. 156 [5 Am. & Eng. 313].
Grier v. Wilt, 120 U. S. 412 [16 Am. & Eng. 558].
Dryfoos v. Wiese, 124 U. S. 32 [17 Am. & Eng. 425].

Notes and citations.

Obscure claim construed to be for a process :

Merrill v. Yeomans, 94 U. S. 568 [11, Am. & Eng. 203].

Claim construed to be for an article of manufacture, and not
for a mode of construction :

Burt v. Evory, 133 U. S. 349.

Application of an old machine for new use does not involve
invention :

Collar Co. v. Van Deusen, 23 Wall. 530 [10 Am. & Eng. 156].

Sawyer v. Bixby, 12 Am. & Eng. 332.

Railroad Co. v. Locomotive Truck Co., 110 U. S. 490 [15
Am. & Eng. 148].

Morris v. McMillin, 112 U. S. 244 [15 Am. & Eng. 310].

Blake v. San Francisco, 113 U. S. 679 [15 Am. & Eng. 535].

Stephenson v. Brooklyn R. R. Co., 114 U. S. 149 [16 Am.
& Eng. 63].

Western Electric Mfg. Co. v. Ansonia Brass Co. 114 U. S.
447 [16 Am. & Eng. 94].

Eachus v. Broomall, 115 U. S. 429 [16 Am. & Eng. 176].

Miller v. Foree, 116 U. S. 22 [16 Am. & Eng. 193].

Freyfus v. Searle, 124 U. S. 60 [17 Am. & Eng. 446].

Peters v. Active Mfg. Co. 129 U. S. 530 [*p. post*].

Peters v. Hanson, 129 U. S. 541 [*p. post*].

Aron v. Manhattan Railway Co. 132 U. S. 84.

Day v. Fair Haven, etc., Railway Co. 132 U. S. 98.

Royer v. Roth, 132 U. S. 201.

Howe Machine Co. v. National Needle Co. 134 U. S. 388.

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Notes and citations.

St. Germain v. Brunswick, 135 U. S. 227.

Consolidated Roller Mill Co. v. Walker, 138 U. S. 124.

Patent in suit:

No. 42,580. Holbeck and Gottfried. May 3, 1864. Pitching Barrels.

OTHER SUITS ON SAME PATENT.

Gottfried v. Bartholomae, 1878. 8 Biss. 219; 3 Ban. & Ard. 308; 13 O. G. 1128.

Gottfried v. Phillip Best Brewing Co., 1879. 5 Ban. & Ard. 4; 17 O. G. 675.

Gottfried v. Seipp Brewing Co., 1881. 10 Biss. 368; 8 Fed. Rep. 322.

Gottfried v. Crescent Brewing Co., 1881. 9 Fed. Rep. 762; 22 O. G. 497.

Gottfried v. Miller, 1881. 10 Fed. Rep. 471.

Gottfried v. Miller, 1881. 104 U. S. 521 [13 Am. & Eng. 410].

Gottfried v. Crescent Brewing Co., 1882. 13 Fed. Rep. 479; 22 O. G. 1447.

Gottfried v. Stahlman, 1882. 13 Fed. Rep. 673; 22 O. G. 1788.

Goff v. Gottfried, 1888. 128 U. S. 170; Bk. 32, L. ed. 395.

Cited:

IN SUPREME COURT IN:

Marchand v. Emken, 1889, 132 U. S. 195.

Gaff v. Gottfried, 1889, 128 U. S. 170.

Oct., 1888.] CRESCENT BREWING Co. v. GOTTFRIED. 19

Notes and citations.

IN CIRCUIT COURTS IN

Smith v. Thomson, May 1889. 38 Fed. Rep. 604.

IN TEXT BOOKS:

Walker on Patents, 2d ed., 1889; pp. 37, 142.

20 CRESCENT BREWING Co. v. GOTTFRIED. [Sup. Ct.

Opinion of the Court.

RACHEL S. GAFF, EXECUTRIX OF JAMES W. GAFF, DECEASED, ET AL, APPELLANTS, v. MATTHEW GOTTFRIED.*

EUGENE HACK ET AL, APPELLANTS, v. MATTHEW GOTTFRIED.*

128 U. S. 170. October Term, 1888.

[Bk. 32, L. ed. 395 ; 45 O. G. 947.]

Argued, October 19, 22, 23, 1888. Decided, Nov. 5, 1888.

1. These cases decided in conformity with the Crescent Brewing Co. v. Gottfried, 128 U. S. 158 (p. 1 *ante*), the patent involved being the same, as are also the proofs and conclusions reached.

[Cited in the opinion of the court:]

The Crescent Brewing Co. v. Gottfried. 128 U. S. 158 (p. 1 *ante*)
p. 21.

Appeals from the Circuit Court of the United States for the District of Indiana, to review decrees in favor of the plaintiff in actions for infringement of letters patent.

Same counsel and briefs as in preceding case.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

These are appeals by the defendants in two suits brought by Matthew Gottfried, in the Circuit Court of the United States for the District of Indiana, upon the same patent involved in the case of *The Crescent Brewing Co. v. Gottfried* (p. 1 *ante*), just decided. The proofs are the same as in that case, and the same conclusions are reached.

The decree in each case is reversed, and each case is remanded to the Circuit Court, with a direction to dismiss the bill of complaint with costs.

* See Explanation of Notes, page III.

Notes and citations.

Patent in suit :

No. 42,580. Holbeck & Gottfried. May 3, 1864. Pitching Barrels.

OTHER SUITS ON SAME PATENT:

See *Crescent Brewing Co. v. Gottfried*. 128 U. S. 158 (p. 1
ante).

[illegible]

Syllabus.

UNITED STATES, APPELLANT, v. GEORGE H. PALMER.*

125 U. S. 262-272. October Term, 1888.

[Bk. 32, L. ed. 442.]

Affirming *Palmer v. United States*, 20 Ct. of Claims 432.

Submitted November 1, 1888. Decided November 19, 1888.

Suit in Court of Claims. Implied contract. Jurisdiction. Government has no right to use of a patented invention.

1. Where claimant exhibited his devices before a board of officers, whose report favorable to their adoption, was subsequently approved and carried into effect, and claimant brought suit in the Court of Claims on an implied contract to recover a royalty, *held* that the Government used the improvements with his consent and the expectation on his part of a reasonable compensation for the license, and that it was not a claim for an infringement, but of compensation for an authorized use. (p. 29).
2. Under this license to use, and the actual use, little or much that ensued thereon, an implied contract for compensation fairly arose. (p. 30).
3. While the objection of want of jurisdiction in the Court of Claims may be available as to actions for infringement of a patent, in which its validity may be put in issue, and in which the peculiar defences authorized by the patent laws in R. S. Sec. 4920 may be set up, it is not valid as against actions founded on contracts for the use of patented inventions. (p. 30).
4. The Government of the United States has no right to use a patented invention without compensation to the owner of the patent. *James v. Campbell*, 104 U. S. 356 [18 Am. & Eng. 341], reaffirmed. (p. 31).
5. The question whether a patentee may waive an infringement

* See Explanation of Notes, page III.

Argument of counsel.

of his patent by the Government, and sue upon an implied contract, raised but not determined. (p. 32).

[Cited in the opinion of the court:]

U. S. v. Burns, 12 Wall. 246 [8 Am. & Eng. 458], p. 30.

Wilson v. Sandford, 10 How. 99 [5 Am. & Eng. 122], p. 30.

Hartell v. Tilghman, 99 U. S. 547 [12 Am. & Eng. 250], p. 30.

Albright v. Teas, 106 U. S. 613. p. 30.

Dale Tile Mfg. Co. v. Hyatt, 125 U. S. 46 [17 Am. & Eng. 508] p. 30.

Pitcher's Case, 1 Ct. Cl. 7, p. 31.

Burn's Case, 4 Ct. Cl. 113, p. 31.

James v. Campbell, 104 U. S. 356 [13 Am. & Eng. 341], p. 31.

Appeal from a judgment of the Court of Claims against the United States, on an implied contract for a royalty for the use of a patented invention.

Reported below, 20 Ct. Cl. 482.

The facts are stated in the opinion.

Messrs. A. H. GARLAND, Atty-Gen., and ROBERT A. HOWARD, Assist. Atty-Gen., for appellant:

The Court of Claims erred in assuming jurisdiction of this action.

The Jurisdictional Act limits suits to obligations under contracts, expressed or implied, and excludes by the strongest implication demands made upon the Government founded on tort.

Gibbons v. U. S. 8 Wall. 275.

The right of the parties depended upon common-law and equity principles. They are not directly connected with the patent.

Wilson v. Sandford, 10 How. 99 [5 Am. & Eng. 122]; *U. S. v. Weld*, 127 U. S. 51.

An action against the Government cannot be supported in that Court upon an implied promise springing from a tort.

It was not contemplated that jurisdiction should cover any cases except those of voluntary contracts entered into by authorized agents.

Argument of counsel.

Smoot's Case, 15 Wall. 86; *U. S. v. Clarke*, 8 Pet. 486, 444; *Cary v. Curtis*, 8 How. 236, 245; *Beers v. Ark.* 20 How. 527; *Gibbons v. U. S.* 8 Wall. 269; *Perrin v. U. S.* 12 Wall. 815; *U. S. v. Bostwick*, 94 U. S. 58; *Hart v. U. S.* 95 U. S. 816; *Minturn v. U. S.* 106 U. S. 437.

Jurisdiction of the Court of Claims does not extend to a claim for the unauthorized use of a patented invention.

James v. Campbell, 104 U. S. 358 [13 Am. & Eng. 341].

This question of whether assumpsit may be based upon an infringement of a patent has never been passed upon by this Court. We will first examine the Court of Claims cases:

Pitcher's Case, 1 Ct. Cl. 7; *Burn's Case*, 4 Ct. Cl. 113; *Shavor v. U. S.* *Id.* 440; *Hubbell's Case*, 5 Ct. Cl. 1; *Fletcher's Case*, 11 Ct. Cl. 748; *McKeever v. U. S.* 14 Ct. Cl. 896; *Morse Arms Co. v. U. S.* 16 Ct. Cl. 296-303.

But few cases of assumpsit have been instituted in Courts of the United States, based upon an infringement of a patent, although it has been intimated on several occasions that such might be maintained.

Sayles v. Richmond, F. & P. R. Co. 4 Ban. & Ard. 245; *Steam Stone Cutter Co. v. Sheldon*, 21 Blatch. 260; *Washington, A. & G. Steam Packet Co. v. Sickles*, 19 Wall. 614 [9 Am. & Eng. 280]; *Langford v. U. S.* 101 U. S. 341, 343.

There is another class of cases, decided in this Court, in which this question was incidentally alluded to.

James v. Campbell, 104 U. S. 357 [13 Am. & Eng. 341]; *Hollister v. Benedict & B. Mfg. Co.* 113 U. S. 59-67 [15 Am. & Eng. 417].

Government could not have been sued in any Court in an action for damages sounding in tort. If there was an injury the remedy was in Congress itself.

St. Paul Plow Works v. Starling, 127 U. S. 376 [18 Am. & Eng. 598].

The Court erred in stating the rule of the measure of damages.

The Court of Claims was not instituted to try a case for nominal damages.

Opinion of the Court.

Grant *v.* U. S. 7 Wall, 331, 338.

There could be no guide to estimate damages by the test of license fees. There had never been any sales of licenses.

Seymour *v.* McCormick, 16 How. 480 [6 Am. & Eng. 200]; Suffolk Mfg. Co. *v.* Hayden, 3 Wall. 315 [7 Am. & Eng. 405]; Philp *v.* Nock, 17 Wall. 460, 462 [9 Am. & Eng. 84]; Root *v.* Lake Shore & M. S. R. Co. 105 U. S. 189 [13 Am. & Eng. 556]; Tilghman *v.* Proctor, 125 U. S. 136 [13 Am. & Eng. 29].

Mr. HALBERT E. PAINE, for appellee:

The jurisdictional question involved in this case was decided in McKeever *v.* U. S. 18 Ct. Cl. 757 [14 Am. & Eng. 414].

The Court of Claims has jurisdiction in cases in which the inventions were used with the consent of the owners.

James *v.* Campbell, 104 U. S. 356 [13 Am. & Eng. 341]; U. S. *v.* Great Falls Mfg. Co. 112 U. S. 656; Hollister *v.* Benedict & B. Mfg. Co. 113 U. S. 67 [15 Am. & Eng. 417]; Langford *v.* U. S. 101 U. S. 343; U. S. *v.* Burns, 12 Wall. 252 [8 Am. & Eng. 458]; Morse Arms Mfg. Co. *v.* U. S. 16 Ct. Cl. 308; Jackson *v.* Allen, 120 Mass. 80.

The letters patent constitute *prima facie* evidence of the utility of the invention.

Whitney *v.* Mowry, 4 Fish. 215; Lehnbeuter *v.* Holthaus, 105 U. S. 94.

Mr. Justice BRADLEY delivered the opinion of the Court:

This is a case from the Court of Claims. Its nature and object are fully explained by the following extract from the petition:

"Your petitioner is the inventor, patentee, and owner of the improvements in infantry equipments, for which were granted letters patent, Nos. 139,731 and 157,537, dated, respectively, June 10, 1873, and December 8, 1874. A board—consisting of Lieutenant-Colonels W. R. Shafter, A. McD.
128 U. S. 262.

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McCook, and Thomas C. English, Major Alexander Chambers, and Captain M. H. Stacey—was appointed by order of the Secretary of War, June 1, 1874, to meet at Fort Leavenworth, Kansas, July 1, 1874, or as soon thereafter as practicable, to consider and report upon the subject of a proper equipment for the infantry soldier, and to recommend the adoption of an equipment best suited to troops serving as infantry. Said board met at Fort Leavenworth, Kansas, July 1, 1874. On the 8th and 9th of July, 1874, the claimant exhibited and explained his said improvements to said board. On the 22d, 24th, and 31st of August, and 16th, 18th and 30th of September, 1874, said board examined, considered, and experimented with said improvements, and on the 12th of November, 1874, decided to recommend the same for adoption to the War Department. On the 24th of November, 1874, said board, in their report to the Chief of Ordinance, recommended the adoption of said improvements by the Government for the use of the Army of the United States. On the 26th of December, 1874, the General of the Army recommended the adoption of the same to the Secretary of War. And on the 4th day of January, 1875, said improvements were adopted by the Secretary of War as a part of the equipment of the infantry soldiers of the United States.

“Since January 4, 1875, the defendant has manufactured or purchased for the use of the army large numbers of equipments, embracing a part or all of said improvements. The number of infantry equipments so manufactured or purchased is about 18,500; and the defendant, by reason of the premises, became indebted to your petitioner, on an implied contract, in the sum of \$10,125, being a fair and reasonable royalty on the number of infantry equipments embodying your petitioner’s inventions so manufactured and used, of seventy-five cents each. The cost of manufacturing said equipments is \$5.59 each.”

In its findings of fact the Court of Claims sustained the

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averments of the petition, except as to the extent to which the claimant's improvements were used in the army and the value of such use. As to the circumstances under and in pursuance of which those improvements were adopted, and on which the claimant founds the implied contract set up by him, the Court in its second finding sets out in full the report of the board of officers, made on the 24th of November, 1874, and referred to in the petition, in which are described the various equipments examined by them, and the reasons are stated why they preferred and recommended the adoption of the claimant's. The Court then sets out the recommendation of the General of the Army, in which he says: "The officers composing this board have had a large and wide experience, and their conclusions are entitled to weight . . . The braces, knapsack, haversack and cartridge box are all approved, and recommended for adoption." The order of the Secretary of War, directed to the Chief of Ordnance, is added, which simply declares that "The report of the board is approved as suggested by the General of the Army, with modifications recommended by him."

The Court then finds as follows :

"III. The pattern thus adopted involves the use of the claimant's invention, as set forth in claims 4 and 5 of letters patent, No. 189,731 and claims 1, 2, 3, and 4, of letters patent, No. 157,587.

"IV. This equipment was experimental, and had never been put to the test of actual use. It failed to give satisfaction to the army, and has been superseded by a return to the system in vogue during the war of the rebellion and anterior thereto. But this has been done informally, the order adopting the claimant's device never having been revoked, nor any other pattern adopted.

"V. No express agreement was made between the claimant and defendant's officers respecting a price to be paid for a license to manufacture infantry equipments or carrying-braces under the patents. Nor was there any agreement or

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understanding that the Government's manufacture and use should be regarded as experimental until the device should be tested by general use in the army. The license under which the Government manufactured and used the claimant's device, and the terms thereof, must be implied exclusively from the facts set forth in Finding II.

"VI. Since the 4th day of January, 1875, the Ordnance Department has manufactured 10,500 complete sets of infantry equipments of the pattern of 1874, and 2,400 carrying-braces, in accordance with the specifications of the patents, but has issued for use in the army only 9,027 complete sets of equipments.

"VII. The cost to the Government of manufacturing such equipments was \$5.59 per set, and a reasonable royalty for the right to manufacture and use amid the circumstances of the case, as hereinbefore described, would be the sum of 25 cents per set, amounting on the above quantity of 9,027 sets to the sum of \$2,256.75."

Judgment was given in favor of the claimant for this sum.

(a). The principal objections raised on the part of the Government against the judgment are, to the jurisdiction of the Court and the form of the action. It is assumed that the ground of complaint on which the petition is founded is a tort and not a contract; that the assertion in the petition of an implied contract is not warranted by the facts of the case; and that the Government cannot be sued in the Court of Claims for a mere tort.

This assumption of the appellant is erroneous. No tort was committed or claimed to have been committed. The Government used the claimant's improvements with his consent; and, certainly, with the expectation on his part of receiving a reasonable compensation for the license. This is not a claim for an infringement, but a claim of compensation for an authorized use—two things totally distinct in the law, as dis-

(a). 128 U. S. begins opinion here inserting "after stating the case as above reported."

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tinct as trespass on lands is from use and occupation under a lease. The first sentence in the original opinion of the Court below strikes the keynote of the argument on this point. It is as follows: "The claimant in this case invited the Government to adopt his patented infantry equipments, and the Government did so. It is conceded on both sides that there was no infringement of the claimant's patent, and that whatever the Government did was done with the consent of the patentee and under his implied license." We think that an implied contract for compensation fairly arose under the license to use, and the actual use, little or much, that ensued thereon. The objection, therefore, that this is an action for a tort falls to the ground.

It is objected that an action cannot be brought in the Court of Claims on a patent, the Circuit Court having exclusive jurisdiction of this subject. But whilst that objection may be available as to actions for infringement of a patent, in which its validity may be put in issue, and in which the peculiar defences authorized by the patent laws in Revised Statutes, § 4920, may be set up, it is not valid as against actions founded on contracts for the use of patented inventions. *U. S. v. Burns*, 12 Wall. 246 [8 Am. & Eng. 458]; *Wilson v. Sandford*, 10 How. 99 [5 Am. & Eng. 122]; *Hartell v. Tilghman*, 99 U. S. 547 [12 Am. & Eng. 250]; *Albright v. Teas*, 106 U. S. 613; *Dale Tile Mfg. Co. v. Hyatt*, 125 U. S. 46 [17 Am. & Eng. 508]. The case of *United States v. Burns* [8 Am. & Eng. 458] was an appeal from a decree of the Court of Claims in favor of Burns for one-half of the license fee agreed upon for the use, by the Government, of Major Sibley's patent tent, one-half of the patent having been assigned to Major Burns. Sibley joined the Confederates; Burns remained true to his allegiance, and the Quartermaster-General directed that he should be paid his half of the royalty. This payment being afterwards suspended, Burns filed a petition in the Court of Claims for the recovery of the amount due him. The Court sustained

128 U. S. 269-270.

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the claim, although in a previous case, in which one Pitcher claimed damages against the Government for the infringement of a patent, it had rejected the claim. In the case of *Burns*, that Court said :

"It was also contended on behalf of the United States, that this Court had no jurisdiction of this case, because we cannot entertain a suit for the infringement of a patent; and *Pitcher's Case* (1 Ct. Cl. 7) was referred to. But this suit is not brought for the infringement of a patent, nor for the unauthorized use of a patented invention, but upon a special contract with a patentee, whereby the use of the invention by the United States was authorized and agreed to be paid for. *Pitcher's Case*, therefore, is not like this. In *Pitcher's Case* there was nothing but an unauthorized use by an officer of the United States; and where an officer of the United States, without authority from them, uses in their service a patented invention, the act being unlawful is his and not theirs, and he and not they are responsible for it." *Burns' Case*, 4 Ct. Cl. 113. The point of jurisdiction does not seem to have been taken in this Court; but the jurisdiction of the Court of Claims was assumed.

It was at one time somewhat doubted whether the Government might not be entitled to the use and benefit of every patented invention, by analogy to the English law which reserves this right to the Crown. But that notion no longer exists. It was ignored in the case of *Burns*. The subject was afterward adverted to in *James v. Campbell*, 104 U. S. 356 [13 Am. & Eng. 341], and the following observations in the opinion of the Court in that case are so pertinent to the one in hand, that we deem it proper to reproduce them. We there said :

"That the Government of the United States, when it grants letters patent for a new invention or discovery in the arts, confers upon the patentee an exclusive property in the patented invention which cannot be appropriated or used by the Government itself, without just compensation, any more than

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it can appropriate or use without compensation land which has been patented to a private purchaser, we have no doubt. The Constitution gives to Congress power 'to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries,' which could not be effected if the Government had a reserved right to publish such writings or to use such inventions without the consent of the owner. Many inventions relate to subjects which can only be properly used by the Government, such as explosive shells, rams and submarine batteries to be attached to armed vessels. If it could use such inventions without compensation, the inventors could get no return at all for their discoveries and experiments.

"It has been the general practice, when inventions have been made which are desirable for Government use, either for the Government to purchase them from the inventors, and use them as secrets of the proper department; or, if a patent is granted, to pay the patentee a fair compensation for their use. The United States has no such prerogative as that which is claimed by the Sovereigns of England, by which it can reserve to itself, either expressly or by implication, a superior dominion and use in that which it grants by letters patent to those who entitle themselves to such grants. The Government of the United States, as well as the citizen, is subject to the Constitution; and when it grants a patent the grantee is entitled to it as a matter of right, and does not receive it, as was originally supposed to be the case in England, as a matter of grace and favor.

"But the mode of obtaining compensation from the United States for the use of an invention, where such use has not been by the consent of the patentee, has never been specifically provided for by any statute. The most proper forum for such a claim is the Court of Claims, if that Court has the requisite jurisdiction. As its jurisdiction does not extend to torts, there might be some difficulty, as the laws now stands,

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in prosecuting in that Court a claim for the unauthorized use of a patented invention; although where the tort is waived and the claim is placed upon the footing of an implied contract, we understand that the Court has in several recent instances entertained the jurisdiction. It is true it overruled such a claim on the original patent in this case, presented in 1867; but according to more recent holdings, it would properly now take cognizance of the case. The question of its jurisdiction has never been presented for the consideration of this Court, and it would be premature for us to determine it now. If the jurisdiction of the Court of Claims should not be finally sustained, the only remedy against the United States, until Congress enlarges the jurisdiction of that Court, would be to apply to Congress itself."

We have quoted these observations because, so far as they express an opinion on the subject, either of the right or the remedy, they are in general accord with our present views. And we add now that, in our judgment, the Court of Claims has jurisdiction to entertain claims and demands of the character presented in the present suit. Whether a patentee may waive an infringement of his patent by the Government, and sue upon an implied contract, is a question upon which we do not express an opinion.

As to the questions relating to the character and amount of use which the Government had of the claimant's invention, and of the proper compensation due therefor, we do not see anything in the findings of the Court below, or in its conclusions deduced therefrom, to call for serious observation. What evidence the Court may have had on these points is not disclosed by the record, and should not be, and the facts found are sufficient to sustain the judgment.

Judgment affirmed.

123 U. S. 272.

Notes:**2. Court of Claims; jurisdiction:**

United States v. Burns, 12 Wall. 246 [8 Am. & Eng. 458.]

Notes and citations.

James v. Campbell, 104 U. S. 356 [13 Am. & Eng. 841].

McKeever v. United States, 18 Ct. of Claims, 757 [14 Am. & Eng. 414].

5. Government cannot use a patent without compensation :

United States v. Burns, 12 Wall. 246 [8 Am. & Eng. 458].

Cammeyer v. Newton, 94 U. S. 225 [11 Am. & Eng. 98.]

James v. Campbell, 104 U. S. 356 [13 Am. & Eng. 841].

McKeever v. United States, 18 Ct. of Claims, 757 [14 Am. & Eng. 414].

Patents in suit :

No. 139,731. George H. Palmer. June 10, 1873.

No. 157,587. George H. Palmer. December 8, 1874.

OTHER SUITS ON SAME PATENT :

Palmer v. United States, 1884. 19 Ct. of Claims, 669.

Palmer v. United States, 1885. 20 Ct. of Claims, 432.

Cited :

IN TEXT BOOKS :

Walker on Patents, 2d ed., 1889. pp. 120, 240, 305.

Robinson on Patents, 1890. § 1258.

c

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UNITED STATES, APPELLANT, *v.* THE AMERICAN
BELL TELEPHONE COMPANY.

128 U. S. 315-373. October Term, 1888.

[Bk. 32, L. ed. 450; 45 O. G. 1311.]

Reversing *Ibid*, 32 Fed. Rep. 591.

Argued, October 9, 10, 1888. Decided, November 12, 1888.

Suit in equity to repeal letters patent for fraud. Jurisdiction. Multifariousness. Sufficiency of allegations in bill. Repeal of land patents. English practice. Scire facias. Act March 3, 1875: R. S. Sec. 4920.

1. A bill in equity brought to repeal patents is not multifariousness where the patents relate to the same invention, belong to the same parties, and can be conveniently considered together; and the defendants have a common interest in sustaining the validity of both patents. (p. 58.)
 2. Allegations in a bill of circumstances to show that the inventor-patentee, Bell, was aware at the time he filed his specifications, asserted his claims, and procured his patent that the same matter had been previously discovered and put in operation by other persons, are sufficient allegations of such fraud upon the public, that the monopoly of the patents ought to be revoked and annulled; and amount to a charge that he knew he was not the first inventor, and that his efforts to procure the patent were fraudulent, because he was aware that he was obtaining a patent to which he was not in law or equity entitled. (p. 59.)
 3. It is not essential in setting out in the bill facts constituting fraud that all the evidence to prove fraud should be recited; a fair statement of the main facts constituting the fraud, so as to put the defendant upon his guard and apprise him of what answer may be required of him, is sufficient. (p. 63.)
 4. The constitutional grants of power to Congress to legislate upon patents for land (Art. 4, Sec. 3, Par. 2), and for in-
- ^a See Explanation of Notes, page III.

Syllabus.

- ventions (Art. 1, Sec. 8, Par. 8) are substantially alike, and such patents are of the same nature, character, and validity, and imply in each case the exercise of the power of the Government, according to modes regulated by Acts of Congress. (p. 65.)
5. Under the Act of March 3, 1875, the Circuit Courts have cognizance of all suits at law or in equity where the amount in dispute is sufficient, and the general powers of a court in equity include the right to annul and set aside contracts or instruments obtained by fraud, to correct mistakes in them, and to require their delivery for cancellation or correction. (p. 66.)
 6. In England the repeal of a patent for an invention might be by a bill in Chancery, or by *scire facias* in a Court of Chancery or in any proper court. (p. 67.)
 7. The English practice grows out of royal prerogative, of which there is nothing corresponding in this country, where all patents issue under the authority of the United States. (p. 70.)
 8. The only authority competent to set a patent aside, or to annul it, or to correct it, for any reason whatever, is vested in the judicial department of the Government; and this can only be effected by proper proceedings taken in the courts of the United States. (p. 71.)
 9. In the various suits for the cancellation of patents for lands, such patents have been repealed for fraud, error, or mistake; and the same is not limited to cases in which the United States has a direct, pecuniary interest. (p. 75.)
 10. Both in the case of land patents and patents for inventions, the essence of the right of the Government to interfere, is the obligation to protect the public from a grant procured by fraud. (p. 75.)
 11. In *Mowry v. Whitney*, 14 Wall. 434 [8 Am. & Eng. 506], although the Court was called upon only to decide that an individual could not bring a suit to repeal a patent, the reason given for so doing must be held to establish the principle that the individual could not bring such suit, because the Government alone could do so. (p. 76.)

Syllabus.

12. The United States, in granting patents to Bell, if the same were granted improperly, took away enormously valuable rights from the people, and conferred them upon the patentee. The Government that did this wrong to the people certainly had the right to correct the error of its own officers, and the way for doing so seems clearly to be by suit in equity. (p. 77.)
13. A suit by bill in equity, for the repeal of letters patent for fraud, is not superseded by the remedy provided in R. S. Sec. 4920; because the broad and conclusive effect of a decree to repeal a patent is so widely different, so much more beneficial, and so much more likely to secure complete justice than any defence made by an individual infringer, that it is impossible that Congress, in granting certain rights to the individual, intended to supersede or take away the more enlarged remedy of the Government. (p. 78.)

[Cited in the opinion of the court:]

- Oliver *v.* Piatt, 3 How. 333. p. 58.
Walker *v.* Powers, 104 U. S. 245. p. 58.
Telephone Cases, 126 U. S. 1 [18 Am. & Eng. 1]. p. 59.
Harding *v.* Handy, 11 Wheat. 103. p. 63.
St. Louis *v.* Knapp Co., 104 U. S. 658. p. 63.
Magdalen College Case, 11 Coke; 68 b. 75 a. p. 68.
Attorney-General *v.* Vernon, 1 Vern. 277. p. 68.
The King *v.* Butler, 3 Lev. 220. p. 69.
Queen *v.* Aires, 10 Mod. 354. p. 69.
Queen *v.* Eastern Archipelago Co., 1 El. & Bl. 310. p. 70.
Cumming *v.* Forrester, 2 Jac. & W. 341. p. 70.
United States *v.* Schurz, 102 U. S. 378. p. 71.
United States *v.* Stone, 2 Wall. 525. p. 72.
Jackson *v.* Lawton, 10 Johns. 24. p. 72.
United States *v.* Hughes, 11 How. 552. p. 73.
United States *v.* Hughes, 4 Wall. 232. p. 73.
Moore *v.* Robbins, 96 U. S. 530. p. 73.
Moffat *v.* United States, 112 U. S. 24. p. 74.
United States *v.* Minor, 114 U. S. 233. p. 74.
Colorado Coal & Iron Co. *v.* United States, 123 U. S. 307. p. 74-
United States *v.* San Jacinto Tin Co., 125 U. S. 273. p. 74.
Mowry *v.* Whitney, 14 Wall. 434 [8 Am. & Eng. 506]. p. 76.
United States *v.* Stone, 2 Wall. 525. p. 77.

Argument of counsel.

Appeal from a decree of the Circuit Court of the United States for the District of Massachusetts, sustaining a demurrer and dismissing a suit in equity to declare void and recall two patents for inventions.

Reported below, 32 Fed. Rep. 591.

The facts are stated in the opinion.

Messrs. A. G. THURMAN, JEFFERSON CHANDLER, Special Assistant U. S. Atty.; G. A. JENKS, Solicitor-Gen.; EPPA HUNTON, Special Assistant U. S. Atty.; and CHAS. S. WHITMAN, Special U. S. Atty., for appellant.

Points and authorities from the brief of Messrs. EPPA HUNTON and JEFFERSON CHANDLER, Special Assistant U. S. Attys., for appellant:

The Government may sue to cancel a patent for land.

U. S. *v.* San Jacinto Tin Co. 125 U. S. 285.

The grant of a patent for an invention is the grant of property, no less pecuniarily valuable to the patentee than the grant of a patent for land.

Gayler *v.* Wilder, 10 How. 494 [5 Am. & Eng. 188]; Brown *v.* Duchesne, 19 How. 195 [6 Am. & Eng. 310].

The grant of a patent for an invention resembles a contract between the United States and the inventor.

Atty.-Gen. *v.* Rumford Chemical Works, 9 Pat. Off. Gaz. 1062; McKeever *v.* U. S. 14 Ct. Cl. 396; Butcher's Union Slaughter-House Co. *v.* Crescent City Co. 111 U. S. 762; U. S. *v.* Gunning, 18 Fed. Rep. 511; Mowry *v.* Whitney, 14 Wall. 434 [8 Am. & Eng. 506].

The Government acts for the public, in suing to repeal a patent fraudulently procured.

What contracts with the Government are void?

Smelting Co. *v.* Kemp, 104 U. S. 636.

If Government officers have acted on erroneous interpretations of their powers, they have acted without jurisdiction, and their action is void:

Argument of counsel.

Grant v. Raymond, 6 Pet. 218 [4 Am. & Eng. 245]; *Windsor v. McVeigh*, 93 U. S. 282.

Bill in equity has grown in practice to be a substitute for *scire facias*.

Mowry v. Whitney, 14 Wall. 434 [8 Am. & Eng. 506].

A State may, without express provision, maintain in its corporate name actions to enforce its rights and redress its injuries.

Ind. v. Woran, 6 Hill, 38; *People v. Assessors of Watertown*, 1 Hill, 620; *Delafield v. Ill.* 2 Hill, 162; *Angell & Ames, Corp.* §§ 369, 370; *U. S. v. Bank of the Metropolis*, 15 Pet. 401.

No statute is necessary to authorize the United States to sue in such a case.

The right to sue is independent of statute.

Cotton v. U. S. 11 How. 231; *Dugan v. U. S.* 3 Wheat. 181; *Story, Const.* § 1674; *Spear, Law of Fed. Judiciary*, 101; *Cooley, Const. Lim.* 15; *High, Extra. Legal Rem.* §§ 592, 593; *Foster, scire facias*, 12, 228.

That right in the Government in this class of cases has not been repealed.

Tobin v. Reg. 14 C. B. N. S. 505; *Chitty, Prerogatives of the Crown*, 266, 383; *Rex v. Copland, Hughes*, 204; *Broom, Legal Maxims*, 58; *Sedgwick, Stat. & Const. Law*, 395; *U. S. v. Hoar*, 2 Mason, 314.

The fact that Congress has permitted by statute certain defences to be made to a patent by a private person, when sued in an action for infringement, cannot be construed to abridge the power or right of the Government to sue.

Foster, scire facias, 245, 251, 369.

The Government's remedy to repeal the patent covers ground and reaches results which are not covered and cannot be reached in private litigation.

Foster, scire facias, 243; *Arkwright v. Mordaunt*, *Dav. Pat. Cas.* 69; *Arkwright v. Nightengale, Id.* 37 [1 Am. & Eng. 24].

Argument of counsel.

The Government had no power to grant a patent giving an exclusive privilege to Mr. Bell to enjoy the invention of another.

Thomas *v.* Waters, Hardr. 443, 448.

Nor did it have power to make a grant in violation of any law of the land (2 Roll. Abr. 164) or injurious to vested rights.

Rex *v.* Butler, 3 Lev. 220; Walker, Patents, § 178, p. 127.

A Court of Equity will set aside the patent if the law has not been correctly expounded and applied.

Rex *v.* Wilkes, 4 Burr. 2539; Yick Wo *v.* Hopkins, 118 U. S. 369; Dynes *v.* Hoover, 20 How. 80; 2 Whart. Ev. §§ 794, 796; Windsor *v.* McVeigh, 98 U. S. 282.

There is nothing in the objection that the action here instituted has not been earlier prosecuted.

Broom, Legal Maxims, 50, and cases there cited; Bacon, Abr. 7th ed. title, *Prerogative*, E. 6; Sedgwick, Stat. & Const. Law, 106.

The objection to the bill, that it does not state the evidence upon which the case is to be made by the Government, is without force.

Story, Eq. Pl. §§ 28, 252; St. Louis *v.* Knapp Co. 104 U. S. 658.

Recitals preliminary to the statement of the facts upon which the Government asks a judgment setting aside the patents described in the bill, cannot be made the subject of a demurrer.

1 Dan. Ch. Pr. 349.

The defendant's demurrer is bad on its face, and must be overruled. It is too general and confused; it is a demurrer to the whole bill, and it is also a demurrer to separate and distinct parts of the bill for and upon like grounds.

Story, Eq. Pl. §§ 442-444; Dan. Ch. Pr. 584; Brandon Mfg. Co. *v.* Prime, 14 Blatch. 371; Heath *v.* Erie R. Co. 8 Blatch. 412; Livingston *v.* Story, 9 Pet. 632; Atwill *v.* Ferrett, 2 Blatch. 43; Devonsher *v.* Newenham, 2 Sch. & Lef. 199.

Argument of counsel.

In order to procure a judgment of cancellation of the patents, the United States must be plaintiff in an action for that purpose.

Gibson v. Ingo, 6 Hare, 112; *Mitford*, Eq. Pl. 127, 128; *Story*, Eq. Jur. § 703, note 1.

The bill shows on its face that the Attorney-General authorized suit to be brought.

U. S. v. Throckmorton, 98 U. S. 61; *Doughty v. West*, 6 Blatch. 433.

The following are the points and authorities from the brief filed by Mr. JENKS, Solicitor-General, for the appellant:

The bill is not multifarious in that it joins allegations and prayers for relief in respect of two patents.

2 Bouv. Law Dict. 261; *Story*, Eq. Pl. §§ 271, 271 a; *Cooper*, Eq. Pl. 182; *Mitford*, Eq. Pl. (by Jeremy) 181; *Adams*, Eq. 309, 310; *Campbell v. Mackay*, 1 Myl. & C. 617; *Att'y-Gen. v. Cradock*, 3 Myl. & C. 94; *Gaines v. Mauseaux*, 1 Woods, 118; *Bedsale v. Monroe*, 5 Ired. Eq. 317; *Case v. Redfield*, 4 McLean, 527; *Nourse v. Allen*, 4 Blatch. 377; *Gamewell Fire Alarm Teleg. Co. v. Chillicothe*, 7 Fed. Rep. 354; *Walsh v. Stainton*, 1 DeG. J. & S. 691; *Am. Bell Teleph. Co. v. Spencer*, 8 Fed. Rep. 509; *Gaines v. Chew*, 2 How. 642; *Seymour v. Osborne*, 11 Wall. 534 [8 Am. & Eng. 290]; *Bates v. Coe*, 98 U. S. 48 [12 Am. & Eng. 150].

The second general ground of demurrer is equivalent to a denial of any power in any department of the Government to cancel or declare void a patent for an invention issued according to the forms of law. A patent for an invention is a grant.

2 Bouv. Law Dict. 379.

It is a franchise.

3 Kent, Com. 458.

It is defined at common law, to be a branch of the King's prerogative.

2 Bl. Com. 37.

Argument of counsel.

It is property of value.

Gaylor v. Wilder, 10 How. 494 [6 Am. & Eng. 188];
Brown v. Duchesne, 19 How. 195 [6 Am. & Eng. 310].

The only property right the inventor has is created by the grant. The power to make the grant is contained in the Constitution.

Const. art. 1, § 8, cl. 8.

A sovereign has a right to all the remedies to redress wrongs in the Courts that a citizen has and, in addition thereto, the rights and privileges that are incident to sovereignty—all of which are held in trust in common for the people. This suit is maintainable on both these grounds.

Pa. v. Wheeling & B. Bridge Co., 13 How. 563.

The right of the Government to bring the suit, and the power of the United States Courts to adjudge is sustained by an almost uninterrupted course of judicial decisions in England and in the United States.

4 Coke, Inst. p. 87; 2 Bl. Com. 259, 281; *Atty.-Gen. v. Vernon*, 1 Vern. 277; *Rex v. Butler*, 3 Lev. 220; *Queen v. Aires*, 10 Mod. 258, 354; *Lord Proprietary v. Jenings*, 1 Har. & McH. 92; *Atty.-Gen. v. Chicago & N. W. R. Co.* 35 Wis. 425; *Atty.-Gen. v. Albion Academy*, 52 Wis. 479, 480; *U. S. v. Gunning*, 18 Fed. Rep. 511; *Mowry v. Whitney*, 14 Wall. 439 [8 Am. & Eng. 506]; *U. S. v. Stone*, 2 Wall. 535; *U. S. v. Hughes*, 11 How. 568; *Field v. Seabury*, 19 How. 324; *Hughes v. U. S.* 4 Wall. 236; *U. S. v. Throckmorton*, 98 U. S. 61; *U. S. v. Minor*, 114 U. S. 233; *Mahn v. Harwood*, 112 U. S. 365 [15 Am. & Eng. 322]; *Doughty v. West*, 6 Blatch. 433; *Rubber Co. v. Goodyear*, 9 Wall. 797 [8 Am. & Eng. 150]; 1 Op. *Atty.-Gen.* 458; 4 Op. *Atty.-Gen.* 120; *Atty.-Gen. v. Rumford Chemical Works*, 2 Ban. & A. 299; *U. S. v. San Jacinto Tin Co.* 125 U. S. 273.

The defence of laches does not apply to suits brought by the Government.

U. S. v. Kirkpatrick, 9 Wheat. 735; *Dox v. Postmaster-*

Argument of counsel.

General, 1 Pet. 324; *Gausson v. U. S.* 97 U. S. 590; *U. S. v. Minor*, 114 U. S. 238.

In the application of principles, equity follows the law.
Story Eq. Jur. 13th ed. §§ 13, 15, 19.

Points and authorities from the brief of Mr. CHARLES S. WHITMAN, for appellant:

The right of the Sovereign to recall a franchise when it has been procured by fraud or false suggestion has never been denied.

Perpigna on Patents, Paris, 1832; Germany, Law of July 1, 1877, § 3; Italy, Law of 1864, chap. 2; Russia, Code of Laws, Vol. XI, part 11, § 3, chap. 5; Spain, Law of July 30, 1878, § 8; Austria, Law of August 15, 1852, § 6; Belgium, Law of May 24, 1854, art. 26; Turkey, Law of the 20th day of the month Rabia, 1 A. H. 1297, § 4, chap. 2; Sweden, Law of May, 1884, § 23.

For the state of the law in regard to the repeal of letters patent for inventions as it existed in England, at the date of the colonization of this country, see:

Attorney-General v. Vernon, 1 Vern. 277; *Rex v. Butler*, 3 Lev. 220; *The Queen v. Aires*, 10 Mod. 354; *Holroyd, Patents*, published in 1830, cites 4 Inst. 72, 88; 3 Lev. 223; 6 Mod. 229; *Rex v. Haine*, 2 Cox Eq. Cas. 235; Bull. N. P. 75, 76; Dy. 197; 2 Saund. 72; 1 Ves. Jr. 118; *Reg. v. Arkwright*, Dav. Pat. Cas. 61 [1 Am. & Eng. 29]; 2 Vent. 344; 10 Mod. 354. See also *Smith, Patents*, 30; *Hands, Patents*, 16; *Godson, Patents*, 270; *Dyer*, 276; *Coryton, Letters Patent*, 164.

The usual proceeding to set aside letters patent in England has been by *scire facias*.

Attorney-General v. Vernon, 1 Vern. 277, 369.

But it seems that an information in equity will lie at the suit of the Crown to set aside letters patent obtained by fraud.

The Magdalen College Case, 11 Coke Rep. 75 a.

Argument of counsel.

Grants of exclusive privileges in inventions have always been treated by the Courts as standing on the same footing as grants of land.

Morgan v. Seaward, Murphy & H. 55 ; 2 Mees & W. 544 [2 Am. & Eng. 412] ; *Drewry*, Patents, 4-7.

The law as above set forth was applied in the colonial Courts.

Lord Proprietors v. Gerard, 1 Harr. & McH. 163, 189 ; *Mancius v. Lawton*, 10 Johns. 24.

Since the organization of the Federal Government the right to annul land patents improperly issued has been repeatedly affirmed by the Executive, Legislative and Judicial Departments of the Government.

U. S. v. Stone, 2 Wall. 525.

The Judiciary Committee of the Forty-ninth Congress reported that it is unquestioned that the Supreme Court has decided that the United States had full authority to initiate and conduct suits to cancel and annul patents for land obtained from it by fraud, misrepresentation, or mistake.

Cotton v. U. S. 11 How. 229 ; *U. S. v. Hughes*, 11 How. 552 ; *Field v. Seabury*, 19 How. 323 ; *U. S. v. Stone*, 2 Wall. 525 ; *U. S. v. Minor*, 114 U. S. 223.

Under the Act of 1790 any person, whether a patentee or not, might apply for the repeal of a patent.

Stearns v. Barrett, 1 Mason, 164 ; *Delano v. Scott*, 1 Gilp. 489 ; *Ex parte Wood*, 9 Wheat. 603 [4 Am. & Eng. 198].

It was held by Judge WALLACE in *United States v. Gunning*, 18 Fed. Rep. 511, that there is no distinction between letters patent for an invention and for land, as regards the rights and remedies for vacating them ; and this was affirmed by WHEELER, J., in 22 Fed. Rep. 653, and 23 Fed. Rep. 668.

In England, both by the common law and the Statute of Monopolies, it is, and always has been, the essential requisite in an art or invention which is made the subject of a patent that it shall be new at the time the patent was granted.

Darcy v. Allein, 11 Coke, 84 [1 Am. & Eng. 1] ; *Cloth-*

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workers of Ipswich Case, Godb. 252; Coke, Third Inst. chap. 85, p. 181; Bacon, Abr. titles, Monopoly and Prerogative, f. 4; Shep. Abr. part III, 61; Hawk. P. C. part I, chap. 79, § 2; Shaw *v.* Cooper, 7 Pet. 318 [4 Am. & Eng. 286]; Coryton, Patents, 41.

In Cartwright *v.* Amatt, 2 Bos. & P. 43 [1 Am. & Eng. 110], cited in 14 Ves. 131, Lord ELDON said that patents were to be construed as bargains between inventors and the public.

Hindmarch, 250; Neilson *v.* Harford, Web. Pat. Cas. 341 [3 Am. & Eng. 231].

The only appeal that can be taken in the interest of the public from the fraudulent or erroneous action of the officers of the Patent Office is that which is being pursued by the Government in this case.

In England, any one may file a protest against a patent being granted.

Hindmarch, Patents, 515.

The English Courts, in sustaining proceedings to cancel letters patent for inventions, have always treated such actions as on the same footing as those for avoiding a grant of land from the Crown.

Morgan *v.* Seaward, 1 Web. Pat. Cas. 187 [2 Am. & Eng. 419].

The right to repeal is based on the fact that the patent deprived the citizen of a right or liberty that he had before.

Hindmarch, Patents, 235; Drewry, Patents, 4; Hughes *v.* U. S. 4 Wall. 232.

The case of the Government is stronger in repealing a patent for an invention than in repealing a patent for land.

Providence Rubber Co. *v.* Goodyear, 9 Wall. 788 [8 Am. & Eng. 150]; Corning *v.* Burden, 15 How. 270 [6 Am. & Eng. 69].

A bill in Chancery will lie to annul a patent obtained by fraud.

U. S. *v.* Frazer, 22 Fed. Rep. 107.

To defeat a patent on the ground of public use, it is only

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necessary that one specimen of the thing invented should have been publicly used; *Consolidated Fruit Jar Co. v. Wright*, 94 U. S. 97 [11 Am. & Eng. 46]; and it is only necessary to prove that one person knew of the use.

Egbert v. Lippmann, 104 U. S. 336 [13 Am. & Eng. 273].

Defences which may be set up in an infringement suit offer no protection to the public.

Tilghman v. Proctor, 102 U. S. 708 [13 Am. & Eng. 29]; *Smith, Patents*, 30; *Perpigna, Patents*.

A patent cannot be impeached by a defendant in an infringement suit for fraud or mistake in its issue.

Doughty v. West, 6 Blatch. 429; *Celluloid Mfg. Co. v. Goodyear Dental Vulcanite Co.*, 13 Blatch. 275; *Mowry v. Whitney*, 14 Wall. 434 [8 Am. & Eng. 506]; *Foster v. Lindsay*, 2 Ban. & Ard. 175; *U. S. v. Colgate*, 21 Fed. Rep. 318; *Gear v. Grosvenor*, 1 Holmes, 215; *Crompton v. Belknap Mills*, 3 Fish. Pat. Cas. 547; *Providence Rubber Co. v. Goodyear*, 9 Wall. 788 [8 Am. & Eng. 150]; *Phila. W. & B. R. Co. v. Dubois*, 12 Wall. 47 [8 Am. & Eng. 433]; *Seymour v. Osborne*, 11 Wall. 516 [8 Am. & Eng. 290]; *Eureka C. W. M. Co. v. Bailey W. & W. M. Co.*, 11 Wall. 488 [8 Am. & Eng. 280].

A patent can be canceled in the absence of a statute authorizing its cancellation.

Grant v. Raymond, 6 Pet. 218 [4 Am. & Eng. 245]

Messrs. E. N. DICKERSON, CHAUNCEY SMITH and JAMES J. STORROW, for appellee.

Defects of form in the patent or of procedure in procuring it cannot raise such a necessity or such an equity as will support this bill.

Butterworth v. U. S., 112 U. S. 50 [15 Am. & Eng. 282]; *Grant v. Raymond*, 6 Pet. 218 [4 Am. & Eng. 245]; *Kansas City L. & S. K. R. Co. v. Attorney-General*, 118 U. S. 682.

If the patentee is the meritorious first inventor, justly entitled under the law (Rev. Stat. 4893), there is no equity

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to support this bill; if he is not, then the patent is void in an infringement suit.

Mahn v. Harwood, 112 U. S. 354, 358 [15 Am. & Eng. 322]; *Gardner v. Herz*, 118 U. S. 191 [16 Am. & Eng. 368]; *Polk v. Wendal*, 9 Cranch. 99; *U. S. v. Arredondo*, 6 Pet. 714.

A bill must allege facts, and not conclusions.

Dillon v. Barnard, 21 Wall. 430; *Louisville & N. R. Co. v. Palmes*, 109 U. S. 244; *Gould v. Evansville & C. R. Co.* 91 U. S. 526; *Mosher v. St. Louis I. M. & S. R. Co.* 127 U. S. 390.

The plaintiff must rest on the case made by the general frame of his bill, and the Court cannot inquire what other grounds of relief he might have marshaled some of his facts to support.

Eyre v. Potter, 15 How. 42.

A public power which touches great private interests must be exercised.

Rock Island Co. v. U. S. 4 Wall. 435; *Butterworth v. U. S. supra.*

The jurisdiction of the Court does not depend upon the relief asked, but upon the relief needed.

Atchison v. Peterson, 20 Wall. 508.

Courts of Equity, as Courts, do not sit to investigate, but only to act; and if they cannot act effectively they will not inquire.

Marye v. Parsons, 114 U. S. 328; *U. S. v. Union Pac. R. Co.* 98 U. S. 589.

The plaintiff must state a case within the established rules of equity.

Root v. Ry. Co. 105 U. S. 189 [13 Am. & Eng. 556]; *Gray v. Brignardello*, 1 Wall. 627; *U. S. v. Gomez*, 1 Wall. 690; *Providence Rubber Co. v. Goodyear*, 6 Wall. 153 [7 Am. & Eng. 475]; *Newhall v. Sanger*, 92 U. S. 766; *Gibson v. Chouteau*, 13 Wall. 92.

This bill does not state a case within any of the recognized heads of equity

Argument of counsel.

A contract brought into Court for cancellation may be enforced by a cross bill.

Carnochan v. Christie, 11 Wheat. 446; *Bradford v. Union Bank*, 13 How. 57; *The Siren*, 7 Wall. 154; *The Davis*, 10 Wall. 15; *U. S. v. Union Pac. R. Co.*, 98 U. S. 569, 607.

The exercise of any equity power is limited by the ability of the Court to conclusively determine all the controversy.

Parrish v. Ferris, 2 Black. 606; *Peirsoll v. Elliott*, 6 Pet. 95; *Craig v. Leitensdorfer*, 123 U. S. 189; *Orton v. Smith*, 18 How. 263; *Vetterlein v. Barnes*, 124 U. S. 169, 172; *Kerrison v. Stewart*, 93 U. S. 155, 159; *Weale v. West Middlesex Waterworks Co.* 1 Jac. & W. 369; *Smith v. Swormstedt*, 16 How. 288, 303.

A bill to quiet title does not lie unless the right of the plaintiff has been established.

Miles v. Caldwell, 2 Wall. 35; *Stark v. Starr*, 6 Wall. 409; *U. S. v. Wilson*, 118 U. S. 89; *Phoenix L. Ins. Co. v. Bailey*, 13 Wall. 616; *Grand Chute v. Winegar*, 15 Wall. 373; *Hendrickson v. Hinckley*, 17 How. 443; *Hapgood v. Hewett*, 119 U. S. 226 [16 Am. & Eng. 412]; *Wickliffe v. Owings*, 17 How. 47; *Holland v. Challen*, 110 U. S. 15; *Frost v. Spitley*, 121 U. S. 552; *Story v. Livingston*, 13 Pet. 359, 375; *Shields v. Barrow*, 17 How. 130, 139; *Kerrison v. Stewart*, 93 U. S. 155, 159.

No ground for cancellation is stated. Mistake or fraud are the only grounds for canceling a deed.

Kerr, Fraud & Mistake, 479; *Rooke v. Kensington*, 2 Kay & J. 753; *Fowler v. Fowler*, 4 DeG. & J. 250; *Sells v. Sells*, 1 Drew & S. 42; *Southern Development Co. v. Silva*, 125 U. S. 247; *Grymes v. Sanders*, 93 U. S. 55; *Quinby v. Conlan*, 104 U. S. 425; *Ming v. Woolfolk*, 116 U. S. 599, 602; *Slaughter v. Gerson*, 13 Wall. 379, 383; *Attwood v. Small*, 6 Cl. & F. 232.

That the patent is void for fraud alone could not prevail against a purchaser without notice.

Fletcher v. Peck, 6 Cranch, 87, 133; *U. S. v. Minor*, 114

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U. S. 239; *Col. Coal & I. Co. v. U. S.* 123 U. S. 307; *N. O. C. & B. Co. v. Montgomery*, 95 U. S. 16; *Calais S. B. Co. v. Scudder*, 2 Black, 372; *Hotchkiss v. National S. & L. Bank*, 21 Wall. 354; *Graham v. Boston H. & E. R. Co.*, 118 U. S. 161, 179.

Lapse of time and change of circumstances disclose a want of equity fatal to this case.

McQuiddy v. Ware, 20 Wall. 14; *Re Broderick's Will*, 21 Wall. 519; *Lockwood v. Cleveland*, 20 Fed. Rep. 164; *Stearns v. Page*, 7 How. 819, 829; *Moore v. Greene*, 19 How. 72; *Badger v. Badger*, 2 Wall. 87, 94; *Harwood v. Cincinnati & C. A. L. R. Co.* 17 Wall. 78; *Marsh v. Whitmore*, 21 Wall. 178; *Wood v. Carpenter*, 101 U. S. 135, 140, 143; *Lansdale v. Smith*, 106 U. S. 391; *U. S. v. Throckmorton*, 98 U. S. 61, 70; *U. S. v. Kirkpatrick*, 9 Wheat. 785; *Gibbons v. U. S.* 8 Wall. 269; *Hart v. U. S.* 95 U. S. 316, and cases cited; *Gausson v. U. S.* 97 U. S. 584; *U. S. v. Thompson*, 98 U. S. 486; *Minturn v. U. S.* 106 U. S. 437; *U. S. v. Bank of Metropolis*, 15 Pet. 377.

The facts of this case are fatal on a general demurrer for want of equity.

Lansdale v. Smith, and *Harwood v. R. Co. supra*; *McQuiddy v. Ware*, 20 Wall. 14, 19; *Badger v. Badger*, 2 Wall. 94; *Bowman v. Walthen*, 1 How. 189; *McKnight v. Taylor*, 1 How. 168; *Godden v. Kimmell*, 99 U. S. 201; *Speidel v. Henrici*, 120 U. S. 377; *Richards v. Mackall*, 124 U. S. 183; *Brent v. Bank of Washington*, 10 Pet. 596; *U. S. v. Throckmorton*, 98 U. S. 61; *R. I. v. Mass.* 15 Pet. 233, 273.

Facts which will not affirmatively establish the defendant's right will often lead equity to leave the subject to the ordinary litigation.

Bein v. Heath, 6 How. 228; *Willard v. Tayloe*, 8 Wall. 557; *King v. Daniel*, 1 Carpmael, Pat. Cas. 453; 1 *Brodix*, Pat. Cas. 392; *Grant v. Raymond*, 6 Pet. 218 [4 Am. & Eng. 245]; *Howe v. Underwood*, 1 Fish. Pat. Cas. 162.

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Judges should not be officious to destroy a patent which in fact gave a great invention to the world.

United Tel. Co. *v.* Harrison, Goodeve, Pat. Cas. 484; Hinks *v.* Safety Lighting Co. L. R. 4 Ch. Div. 607.

Equity never interferes to try questions which ordinary litigation can decide.

Marques *v.* Frisbie, 101 U. S. 473; U. S. *v.* Atherton, 102 U. S. 372; Smith *v.* Ely, 15 How. 143 [6 Am. & Eng. 1]; Louisville & N. R. Co. *v.* Palmes, 109 U. S. 244; King *v.* Gallun, 109 U. S. 99, 101 [14 Am. & Eng. 559]; Ah Kow *v.* Nunan, 5 Sawy. 560; Brown *v.* Piper, 91 U. S. 37 [10 Am. & Eng. 272]; Terhune *v.* Phillips, 99 U. S. 592 [12 Am. & Eng. 270].

The Court knows the fact that there has been fierce litigation about this patent and the results of it. The records of this Court are full of such instances of judicial notice.

Smith *v.* Ely, 15 How. 137 [6 Am. & Eng. 1]; Gregg *v.* Tesson, 1 Black, 151; Pensacola Teleg. Co. *v.* Western Union Teleg. Co. 96 U. S. 1; U. S. *v.* Union Pac. R. Co. 98 U. S. 569; Sinking Fund Cases, 99 U. S. 700; Wade *v.* Walnut, 105 U. S. 1; Gilson *v.* Dayton, 123 U. S. 59; Crow *v.* Oxford, 119 U. S. 215; New Hampshire *v.* Louisiana, 108 U. S. 76; La. *v.* Jumel and Elliott *v.* Wiltz, 107 U. S. 711.

The Court takes notice of matters of public knowledge.

Louisville & N. R. Co. *v.* Palmes, 109 U. S. 244.

Whether two papers describe the same invention is a question the Court will decide on demurrer.

Powder Co. *v.* Powder Works, 98 U. S. 126 [12 Am. & Eng. 201].

The power invoked does not exist in the executive department nor in the Circuit Courts.

Osborn *v.* Bank of U. S. 9 Wheat. 738; Keokuk Northern Line Packet Co. *v.* Keokuk, 95 U. S. 80, 85; Huse *v.* Glover, 119 U. S. 543; U. S. *v.* State Bank, 96 U. S. 30.

No subject could in any way assail a royal grant.

Darcy *v.* Allein, 11 Coke, 84 [1 Am. & Eng. 1].

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The King had a prerogative to recall the grant, and the power to do this was usually reserved in each patent

Hindmarch, 62, 431.

The ultimate cancellation depended upon the royal will. No Court whatever had power in England to issue such a *scire facias*. It issued only by royal command.

Hindmarch, 381-3, 710, 715, 728, 729; *Bynner v. Reg.* 9 Q. B. N. S. 523; *The Magdalen College Case*, 11 Coke, 74; *Legat's Case*, 10 Coke, 113.

A legislative grant cannot be impeached in Court for fraud or misrepresentation in procuring it, or on the ground of forfeiture.

The Maxwell Land Grant Case, 121 U. S. 325; *St. Louis I. M. & S. R. Co. v. McGee*, 115 U. S. 469; *Arnson v. Murphy*, 109 U. S. 238; *McMicken v. U. S.* 97 U. S. 204; *Farnsworth v. Minn. & Pac. R. Co.* 92 U. S. 49; *Schulenberg v. Harri-man*, 21 Wall. 44; *Fletcher v. Peck*, 6 Cranch, 87; *Hindmarch, Patents*, 384.

We can find no trace of a bill in equity to cancel a patent for an invention in any of the English books.

Attorney-General v. Vernon, 1 Vern. 277; *Reg. v. Prosser*, 11 Beav. 306.

This Court has vigorously set its face against the judicial implication of remedies—particularly sovereign remedies.

Evans v. Jordan, 9 Cranch, 199 [4 Am. & Eng. 7]; *Rees v. Watertown*, 19 Wall. 107; *Heine v. Levee Comrs.* 19 Wall. 656; *Thompson v. Allen County*, 115 U. S. 550; *The Credit Mobilier Case*, 98 U. S. 569.

The ordinary litigation is sufficient here.

Tilghman v. Proctor 102 U. S. 708 [13 Am. & Eng. 29]; *Mitchell v. Tilghman*, 19 Wall. 287 [9 Am. & Eng. 174]; *Ingersoll v. Turner*, 7 Fed. Rep. 859; *U. S. Stamping Co. v. King*, *Id.* 860; *Ex-parte Wood*, 9 Wheat. 603.

Courts do not possess this prerogative power in the absence of legislation. The sole power about patents for inventions was given to Congress.

Argument of counsel.

Hamilton v. Dillin, 21 Wall. 74; *Rees v. Watertown*, 19 Wall. 122; *Butterworth v. U. S.* 112 U. S. 50 [15 Am. & Eng. 282]; *The Floyd Acceptances*, 7 Wall. 676; *U. S. v. Union Pac. R. Co.* 98 U. S. 569; *Bank of Columbia v. Okely*, 4 Wheat. 235; *Maryland v. Baltimore & O. R. Co.* 22 Wall. 112.

A Court of Equity cannot create a remedy without the authority of law.

Rees v. Watertown, 19 Wall. 122; *U. S. v. Union Pac. R. Co.* 91 U. S. 72; *Kohl v. U. S.* 91 U. S. 367; *U. S. v. Great Falls Mfg. Co.* 112 U. S. 645; *Miss. & Run River Boom Co. v. Patterson*, 98 U. S. 403.

No prerogative or sovereign powers can be exercised by the Circuit Courts under the Judiciary Act, nor unless specially conferred.

Heine v. Lovee Comrs. 19 Wall. 655; *Ex-parte Vallandigham*, 1 Wall. 243; *Wisconsin v. Pelican Ins. Co.* 127 U. S. 265; *Georgetown v. Alexandria Canal Co.* 12 Pet. 91; *Irwin v. Dixion*, 9 How. 27; *Miller v. Kerr*, 7 Wheat. 1; *Davenport v. Dodge Co.* 105 U. S. 242; *Root v. Lake Shore & M. S. R. Co.* 105 U. S. 189 [13 Am. & Eng. 556]; *Pa. v. Wheeling & B. Bridge*, 13 How. 518, 559; *U. S. v. Union Pac. R. Co.* 98 U. S. 569; *Cotton v. U. S.* 11 How. 229.

In *United States v. Hughes*, 11 How. 552, 568. This Court decided that it could not cancel a patent except on the footing of relief to a property owner.

See *U. S. v. Schurz*, 102 U. S. 396; *U. S. v. Beebe*, 127 U. S. 338.

The Judiciary Act does not confer upon the Courts all those sovereign powers which could be exercised through the judiciary.

U. S. v. Union Pac. R. Co. 98 U. S. 569.

Governing power cannot be used by the Courts without an express grant.

People v. Ingersoll, 58 N. Y. 1; *Atty.-Gen. v. Utica Ins. Co.* 2 Johns. Ch. 371; *Wheeler v. Smith*, 9 How. 55; *Fon-*

Argument of counsel.

tain v. Ravenel, 17 How. 369 ; *Wisconsin v. Pelican Ins. Co.* 127 U. S. 265 ; *Pa. v. Wheeling & B. Bridge*, 13 How. 518.

The Cy Pres Prerogative.

No federal Court has this power in any form, for a grant of the broadest equity powers does not confer it.

Phila. Baptist Asso. v. Hart, 4 Wheat. 1 ; *Wheeler v. Smith*, 9 How. 55 ; *Vidal v. Girard*, 2 How. 127 ; *Fontain v. Ravenel*, 17 How. 369 ; *Perin v. Carey*, 24 How. 465 ; *Russell v. Allen*, 107 U. S. 163, 169.

The fact that the extensive legislation about patents does not confer the power, forbids it.

Bowman v. Chicago & N. W. R. Co. 125 U. S. 465 ; *Ex parte Yarbrough* 110 U. S. 652.

When Congress has acted by the Judiciary Act, then the Supreme Court has what power that Act confers and no more.

Ex-parte Gordon, 1 Black, 503 ; *Ex-parte McCardle*, 7 Wall. 506.

As to relations of the war powers of the Executive to legislation, see :

Mechanics Bank v. Union Bank, 22 Wall. 276, 295, 297 ; *Hamilton v. Dillin*, 21 Wall. 73 ; *Ex-parte Milligan*, 4 Wall. 2 ; *Brown v. U. S.* 8 Cranch, 110 ; *Conrad v. Waples*, 96 U. S. 279.

The exercise of sovereign powers in Court does not belong to the Executive.

U. S. v. McLemore, 4 How. 286 ; *The Davis*, 10 Wall. 15 ; *Case v. Terrell*, 11 Wall. 199 ; *Carr v. U. S.* 98 U. S. 433 ; *U. S. v. Lee*, 106 U. S. 196 ; *U. S. v. Hudson*, 7 Cranch, 32.

The same rule of the necessity of legislation for the exercise of prerogative powers applies even to the action of one of the Houses of Congress.

Kilbourn v. Thompson, 103 U. S. 168.

Specific legislation about patents has forbidden this suit.

Bowman v. Chicago & N. W. R. Co. 125 U. S. 465 ; *Cooley v. Port Wardens*, 12 How. 299 ; *Mobile Co. v. Kimball*, 102

Argument of counsel.

U. S. 691; *Shaw v. Cooper*, 7 Pet. 818 [4 Am. & Eng. 286]; *Butterworth v. U. S.* 112 U. S. 50 [15 Am. & Eng. 282].

The legislation of 1790 and 1793.

The decisions under these statutes about the power to cancel were the following:

Grant v. Raymond, 6 Pet. 218 [4 Am. & Eng. 245]; *Ex parte Wood*, 9 Wheat. 608 [4 Am. & Eng. 198].

Butterworth v. U. S. 112 U. S. 50 [15 Am. & Eng. 282]; establishes the rules which govern all questions of power in the administration of the patent system.

The following cases contain all the judicial expressions on the subject:

Providence Rubber Co. v. Goodyear, 9 Wall. 811 [8 Am. & Eng. 150]; *Mowry v. Whitney*, 14 Wall. 620, 484 [9 Am. & Eng. 1]; *Miss. v. Johnson*, 4 Wall. 500; *Merserole v. Union Paper Collar Co.* 6 Blatch. 356; *U. S. v. Doughty*, 7 Blatch. 424.

Neither the Attorney-General nor any Court can assail a legislative grant. It cannot be attacked for the grossest frauds in procuring it, unless the Legislature has given express power to do so.

Schulenberg v. Harriman, 21 Wall. 44; *St. Louis I. M. & S. R. Co. v. McGee*, 115 U. S. 469; *McMicken v. U. S.* 97 U. S. 204; *Farnsworth v. Minnesota & Pac. R. Co.* 92 U. S. 49; *Ryan v. Carter*, 93 U. S. 78; *Tameling v. U. S. Freehold & Emigrant Co.* 93 U. S. 644; *Slidell v. Grandjean*, 111 U. S. 439; *Whitney v. Morrow*, 112 U. S. 693; *The Maxwell Land-Grant Case*, 121 U. S. 325, 366; *U. S. v. Frazer*, 22 Fed. Rep. 106; *U. S. v. Colgate*, 32 Fed. Rep. 624.

Preliminary injunctions to restrain litigation pending a suit to cancel a patent under the interference section 4918, cannot be entertained against a sustained patent.

Asbestos Felting Co. v. U. S. & F. S. F. Co. 13 Blatch. 453; *Celluloid Mfg. Co. v. Goodyear Dental Vulcanite Co.* 13 Blatch. 375; *Mahn v. Harwood*, 112 U. S. 354 [15 Am. & Eng. 322].

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There can be no equity to support a bill to cancel a sustained patent on grounds which are open in an infringement suit.

Smith *v.* McIver, 9 Wheat. 534; Miles *v.* Caldwell, 2 Wall. 35; Mt. Zion *v.* Gilman, 9 Biss. 479; Providence Rubber Co. *v.* Goodyear, 9 Wall. 788 [8 Am. & Eng. 150]; U. S. *v.* Frazer, 22 Fed. Rep. 106.

Mr. Justice MILLER delivered the opinion of the Court:

This is an appeal from the Circuit Court of the United States for the District of Massachusetts.

The United States brought its suit in equity in that Court against the American Bell Telephone Company, a corporation organized under the laws of the State of Massachusetts, and against Alexander Graham Bell, a resident of the District of Columbia. The action purports to have been instituted by George M. Stearns, the United States District Attorney for that District, by the direction of George A. Jenks, the Solicitor-General of the United States, acting as its Attorney-General in this matter, because the latter officer was under a disability to prosecute this suit.

The object of the bill was to impeach two patents for inventions issued to said Bell, the first dated March 7, 1876, and numbered 174,465, and the second dated January 30, 1877, and numbered 186,787, with a prayer that they be declared void and of no effect, and that they be in all things recalled, repealed, and decreed absolutely null; that they be erased and obliterated from the records of the Patent Office; and for other relief.

To this bill the Telephone Company entered an appearance and filed a demurrer. It is not shown that Bell either appeared or filed any pleading. At the hearing on the demurrer it was sustained by the Circuit Court, the bill dismissed, and the United States has brought the present appeal to reverse that ruling.

The defendant demurs generally to the whole bill, and in

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that demurrer objects to specific portions of the bill; and it may be very doubtful whether these are not so mixed up in the same pleading as to make the demurrer void, so far as it relates to such parts of it. As the main questions on the demurrer, however, relate to matters which go to the merits of the whole bill, they are probably all that is necessary to consider here. Some of these points of demurrer, although stated as such in a general demurrer, are manifestly only such as could be taken under a special demurrer, and would not, if successful, defeat the entire bill.

The grounds of demurrer which we shall consider in this opinion are as follows:

First. "That the said bill is multifarious, in that it joins allegations and prayers for relief in respect of patent No. 174,465, dated March 7, 1876, and allegations and prayers for relief in respect of patent No. 186,787, dated January 30, 1877."

Second. The defendant demurs as to each patent specifically, "that the complainant, in and by its said bill, does not show any power or authority, and no power or authority in law exists, in any person or party, or any Court, to bring said suit, nor to entertain the same, nor to give the relief therein prayed, nor any relief thereunder or touching the subject matter thereof;" and further, "that the complainant, in and by said bill, has not made or stated a case which calls upon or justifies this Court, in the exercise of its discretion, to permit this bill to be entertained."

Third. The defendant specially demurs to the bill, "for that it does not set forth any fraud in the procuring of said patents; and for that it does not specifically set forth what acts, if any, the complainant relies on as constituting fraud in procuring said patents; and for that it does not show when, how, from whom, or by what means the complainant first had knowledge or notice of each alleged fact, nor why, with due diligence, it would not have learned them earlier;" and also "because the allegations contained in said bill, if

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true, would not entitle the complainant to the relief prayed for, nor to any relief in a Court of Equity."

While these grounds of demurrer are stated in the language of the demurrer itself, we have grouped them somewhat differently from the mode in which they are there stated, because we think the consideration of the three causes of demurrer here laid down must dispose of the case before us.

With regard to the question of multifariousness, we do not think it needs much consideration. It is very true that the bill assails two patents, issued nearly a year apart, but they were issued to the same party, Alexander Graham Bell, and relate to the same subject, that of communicating messages at a distance by speech, and by the same general mode, the later patent being supposed to be for an improvement upon the invention of the earlier one. Both are held by the same defendant, the American Bell Telephone Company, and are used by it in the same operations.

The principle of multifariousness is one very largely of convenience, and is more often applied where two parties are attempted to be brought together by a bill in Chancery who have no common interest in the litigation, whereby one party is compelled to join in the expense and trouble of a suit in which he and his co-defendant have no common interest, or in which one party is joined as complainant with another party with whom in like manner he either has no interest at all, or no such interest as requires the defendant to litigate it in the same action. *Oliver v. Piatt*, 3 How. 333; *Walker v. Powers*, 104 U. S. 245.

In the present case there is no such difficulty. The Bell Telephone Company and Mr. Bell himself are the only parties defendant, and their interest in sustaining the patents is the same. So also there is no such diversity of the subject matter embraced in the assault on the two patents that they cannot be conveniently considered together, and although it may be possible that one patent may be sustained and the other may not, yet it is competent for the Court to make a decree

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in conformity with such finding. It seems to us in every way appropriate that the question of the validity of the two patents should be considered together.

It will be convenient, as a means of showing specifically the ground of complaint in the bill, to take up next the third group of the causes of demurrer. The point intended to be presented there is that the bill does not set forth any fraud in the procuring of the patents, and does not specifically set forth what acts, if any, the complainant relies upon as constituting fraud in their procurement, and also that the allegations contained in the bill, if true, would not entitle the complainant to the relief prayed for, nor to any relief in a Court of Equity. Assuming for the present that the Circuit Courts of the United States have the same jurisdiction in equity, in a case where the United States itself is plaintiff, that they have where a citizen is plaintiff, to relieve against accident, mistake, fraud, covin and deceit, we proceed to examine in the sufficiency of the allegations in this bill to maintain such a suit.

The 5th claim of invention of the patent of March 7, 1876, which was held to be a sufficient claim for an invention in the recent Telephone cases, decided March 19, 1888, and reported in 126 U. S. [18 Am. & Eng. 1], is as follows:

"5. The method of, and apparatus for, transmitting vocal or other sounds telegraphically, as herein described, by causing electrical undulations, similar in form to the vibrations of the air accompanying the said vocal or other sounds, substantially as set forth."

The claims of invention under the patent of January 30, 1877, are eight in number, and may be stated generally to be for improvements in the instruments by which the vocal sounds mentioned in the foregoing paragraph are conveyed and received. The bill alleges that Bell, the patentee, knew at the time of filing his application for the patent of March 7, 1876, that he was not the original and first inventor, as the law required he should be, of all the improvements in

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telegraphy described and claimed in said specification; "that certain of the so-called improvements had been previously known to and used by others, as is hereinafter more fully and at large set forth; that the said Bell, on the 20th day of January, 1876, and at the time of filing the said application, did not verily believe himself to be the original and first inventor of all the so-called improvements in telegraphy described and claimed in the said specification; and that on the said 20th day of January, 1876, and at the time of filing the said application, the said Bell did know and did believe that certain of the so-called improvements in telegraphy described and claimed in the specification aforesaid had been previously known to and used by others, as is hereinafter more fully set forth."

It is then charged that the said untrue statements made by said Bell constituted deception and fraud upon the Government, and did deceive and defraud complainant, and did cause complainant to issue and deliver said patent, No. 174,465, to said Bell; and that but for said fraudulent statements of said Bell said patents would not have been issued.

The bill alleges, also, that in his application for the patent Bell misled the Patent Office by a statement that his invention was for "an improvement in telegraphy," and especially for a patent for a method of "multiple telegraphy;" and that he carefully and intentionally refrained from any expression which would lead to the idea that his invention was to be used as a telephone, or was capable of such use.

The bill then proceeds to describe various discoveries in the art of conveying articulate sounds by telegraph wires prior to that of Bell, with which it is alleged Bell himself was well acquainted, and which anticipated his discovery, and rendered his patent void. Among them are those of Philip Reis, of Germany; Elisha Gray, of Chicago, and certain fraudulent practices with regard to Gray's claim are charged upon Bell. It is also claimed that Bell was anticipated in the discovery of an electrical speaking telephone by Philip

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Reis, Cromwell Fleetwood Varley, Antonio Meucci, Elisha Gray, Thomas A. Edison, Asahel K. Eaton, and many others.

The bill further charges "that said Bell, well knowing that he was not the inventor of the art of transmitting speech by an electric speaking telephone, and also that the patent of March 7, 1876, neither in the drawings, specifications, nor claims of said patent, described any apparatus or device by which articulate speech could be transmitted through the instrumentality of electricity, as perfectly or as well as articulate speech had been transmitted prior to the alleged said invention, through the instrumentality of electricity, by the use of well-known pre-existing methods and apparatus, sought to fortify himself in his wrongful claim and more completely to secure to himself the monopoly since alleged by him to be described in said patent, and to further impose upon your orator and the Patent Office, and to that end, on or about January 15, 1877, made another application for a patent to be issued to him, upon which application a patent was issued, No. 186,787, dated January 30, 1877, which said patent purports to be granted to him for a new and useful improvement in electric telegraphy."

It is then charged "that at the time said Bell applied for said last-mentioned patent he well knew that every material part, portion and device and apparatus set forth and described in his said patent and specification, were not his invention, but that the several elements, considered either separately or combined, had been taken bodily by him from well-known and existing apparatus, devices and plans invented and contrived by others for the purpose of transmitting articulate speech by means of electricity."

The charge is also made "that he so framed the several claims in said patent, No. 186,787, as on the face thereof to give him and his associates the practical monopoly of well-known and essential devices used and combined in all instruments for the transmission of articulate speech by electricity."

It is also asserted that "said Bell procured his last-named

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patent by fraud upon one Amos E. Dolbear, Professor of Physics at Tufts College, in Massachusetts," in a manner and under circumstances which are minutely described in the bill.

It seems to us that if Bell was aware, at the time that he filed his specifications, asserted his claims, and procured his patents, that the same matter had been previously discovered and put into operation by other persons, he was guilty of such a fraud upon the public that the monopoly which these patents grant to him ought to be revoked and annulled. We will consider hereafter the power and duty of the Court in such a case; at present we are concerned with the sufficiency of the allegations; that is to say, whether the allegations of this fraud is made with such minuteness and sufficiency of detail as to require an answer on the part of the defendants.

The fraud alleged is precisely the fraud which would be committed in a case of that kind. It is a fraud of obtaining a patent for an invention of which the party knew he was not the original inventor. This priority of invention is an essential element; it is absolutely necessary to the right to have such a patent, and can in no case be dispensed with. It may be possible that a patent would not be absolutely void where the patentee was not really the first inventor, and the Act of Congress made provision that any man sued for an infringement of such patent might prove that the patentee was not the original discoverer or inventor. But we do not decide here whether a patent is absolutely void because the patentee is not the first inventor, nor whether a Court of Equity should set aside a patent where the party had obtained it without fraud or deceit, believing himself to be the first inventor. It is sufficient for the present case, in which, on demurrer, we wish to decide nothing more than is necessary to determine whether the defendant should be called to answer the bill, to say that the charge here is that he knew he was not the first inventor, and that his efforts to procure the patent were fraudulent, because he was aware

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that he was obtaining a patent to which he was not in law or equity entitled.

Nor is the objection to the bill, that it does not allege the facts which constitute the fraud, well taken. The guilty knowledge is well and fully stated, the prior inventions and discoveries and their authors are alleged to have been known to Bell, and are mentioned with sufficient precision, and his connection with some of them, especially in the case of Dr. Gray and others, is set forth with minute particularity. It is a mistake to suppose that in stating the facts which constitute a fraud, where relief is sought in a bill in equity, *all* the evidence which may be adduced to prove that fraud must be recited in the bill. It is sufficient if the main facts or incidents which constitute the fraud, against which relief is desired, shall be fairly stated, so as to put the defendant upon his guard, and apprise him of what answer may be required of him. Story, Eq. Pl. § 252.

In all these particulars we think the bill is sufficiently explicit. There can be no question that if the bill, as is the general rule on demurrers, is to be taken as true, there is enough in it to establish the fraud in the procurement of the patent, and to justify its cancellation or rescission, if the Court has jurisdiction to do so. *Harding v. Handy*, 11 Wheat, 103; *St. Louis v. Knapp Co.*, 104 U. S. 658.

But the second group of causes of demurrer is, perhaps, the most important, and the one on which counsel seem to have principally relied, the essence of which is, that "No power or authority in law exists, in any person or party, or any Court, to bring said suit, nor to entertain the same, nor to give the relief therein prayed, nor any relief thereunder or touching the subject matter thereof," and "that the complainant has not made or stated a case which calls upon or justifies this Court in the exercise of its discretion to permit this bill to be entertained."

It will be observed that this broad assertion admits that a party may practice an intentional fraud upon the officers of

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the Government, who are authorized and whose duty it is to decide upon his right to a patent, and that he may, by means of that fraud, perpetrate a grievous wrong upon the general public, upon the United States, and upon its representatives. It admits that by prostituting the forms of law to his service he may obtain an instrument, bearing the authority of the Government of the United States, entitling him to a monopoly in the use of an invention which he never originated, of a discovery which was made by others, and which, however generally useful or even necessary it may become, is under his absolute and exclusive control, either as to that use or as to the price he may charge for it during the life of the grant. It assumes that the Government, which has thus been imposed upon and deceived, is utterly helpless, and that it can take no steps to correct the evil or to redress the fraud. If such a fraud were practiced upon an individual, he would have a remedy in any Court having jurisdiction to correct frauds and mistakes, and to relieve against accident; but it is said that the Government of the United States—the representative of sixty millions of people, acting for them, on their behalf, and under their authority—can have no remedy against a fraud which affects them all, and whose influence may be unlimited.

Though, by the Constitution of the United States, it is declared that “The judicial power shall extend to all cases, in law and equity, arising under this Constitution, the laws of the United States, and treaties made, or which shall be made, under their authority,” and “to controversies to which the United States shall be a party,” the argument asserts that the practice of a gross fraud upon the United States, concerning matters of immense pecuniary value, and affecting a very large part of its population, is not a proper question of judicial cognizance. It would be a strange anomaly in a government organized upon a system which rigidly separates the powers to be exercised by its executive, its legislative and its judicial branches, and which in this

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emphatic language defines the jurisdiction of the judicial department, to hold that in that department there should be no remedy for such a wrong.

As we shall presently see, this Court has repeatedly held, after very full argument, and after a due consideration of the proposition here stated, that in regard to patents issued by the Government for lands conveyed to individuals or to corporations, the Circuit Courts of the United States do have jurisdiction to set aside and cancel them for frauds committed by the parties to whom they were issued. This class of cases will be considered further on. It is sufficient to say here that they establish the right of the United States to bring suits in its own Courts to be relieved against fraud committed in cases of that class exactly similar to that charged in the present case. And it is also to be observed that in those cases there is no expressed Act of Congress authorizing such procedure, a ground of objection which is here urged.

Recurring to the Constitution itself as the great source of all power in the United States, whether executive, legislative or judicial, there is a striking similarity in the language of that instrument conferring the power upon the Government, under which patents are issued for inventions and patents are issued for lands. It is declared in Article 1, § 8, ¶ 8, that "The Congress shall have power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." It is by virtue of this clause that Congress has passed the laws under which the patents of the defendant in this case were issued.

Article 4, § 3, ¶ 2, declares that "The Congress shall have power to dispose of and make all needful rules and regulations respecting the territory or other property belonging to the United States." It is under this clause that Congress has passed laws by which title to public lands is conveyed to individuals, by instruments also called patents.

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The power, therefore, to issue a patent for an invention, and the authority to issue such an instrument for a grant of land, emanate from the same source, and, although exercised by different bureaux or officers under the Government, are of the same nature, character, and validity, and imply in each case the exercise of the power of the Government according to modes regulated by Acts of Congress.

With regard to the jurisdiction of the Circuit Court in which this suit was brought, there does not seem to be any objection made by defendants, if such suit could be brought in any Court. Indeed, the language of the Act of Congress on that subject does not admit of any such doubt, for it declares "that the Circuit Courts of the United States shall have original cognizance, concurrent with the Courts of the several States, of all suits of a civil nature at common law or in equity, where the matter in dispute exceeds, exclusive of costs, the sum or value of five hundred dollars, and arising under the Constitution or laws of the United States, or treaties made, or which shall be made, under their authority, or in which the United States are plaintiffs or petitioners." 18 U. S. Stat. at L. 470. Act of March 3, 1875.

In the present case the United States are plaintiffs, and the bill asserts that the suit is one of a civil nature, and of equitable cognizance; and manifestly, if it presents a good cause of action, it arises under the laws and Constitution of the United States. It is, therefore, within the language, both of the Constitution and of the statute conferring jurisdiction on the Circuit Courts. An examination of the specific objections made to the present bill will illustrate and enforce this general view. While it cannot successfully be denied that the general powers of a Court of Equity include the right to annul and set aside contracts or instruments obtained by fraud, to correct mistakes made in them, and to give all other appropriate relief against documents of that character, such as requiring their delivery up, their cancellation, or their correction, in order to make them conform to the in-

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tention of the parties, it would seem to require some special reason why the Government of the United States should not be able to avail itself of these powers of a Court of Equity. Accordingly, the defendant objects that the appropriate remedy, if any exists, is in the Common-Law Courts, and not in a Court of Equity, and that in the ancient proceedings of our English ancestors, in regard to patents, the only remedy for relief against them, when they were improvidently issued, was by a *scire facias* in the name of the King, or by his express and personal revocation of them.

Charters and patents authenticating grants of personal privileges were in the earlier days of the English Government made by the Crown. They were supposed to emanate directly from the King, and were not issued under any authority given by Acts of Parliament, nor were they regulated by any statutes. Being, therefore, in their origin, an exercise of his personal prerogative, the power of revoking them, so far as they could be revoked at all, was in the King, and was exercised by him as a personal privilege. This mode of revoking patents, however, seems to have fallen into disuse, and the same end was attained by the issue of writs of *scire facias*, in the name of the King, to show cause why the patents should not be repealed or revoked. These were, of course, returnable into some Court, and it appears to have been the practice to do this in the Court of King's Bench, or in the Court of Chancery, where the record of the patent always remained in what was called the Petty Bag Office. If the latter mode is to be considered a proceeding in Chancery which, under our adoption of the methods and jurisdiction of the High Court of Chancery in England, would fall within the province of a Chancery Court in this country, then the precedent for the exercise of this jurisdiction by a Court of Chancery is clear and undoubted. This, however, is a question which, if not in relation to this particular class of cases, has in regard to others, concerning the prerogative jurisdiction of the Court of Chan-

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cery in this country, been doubted. But the Courts of England seem to have considered that in the matter of repealing or revoking a patent the King may sue in what Court he pleases. See Magdalen College Case, 11 Coke, 68 *b* and 75 *a*.

The jurisdiction to repeal a patent by a decree of a Court of Chancery as an exercise of its ordinary powers was sustained in the case of Attorney-General *v.* Vernon, 1 Vern. 277. In that action a bill was brought by the Attorney-General against Vernon and others to set aside a patent issued by the Crown, on the ground that it was obtained by surprise and by false particulars. It was insisted by the defendant's counsel that there never had been any precedent of this nature to repeal letters patent by an English bill in Chancery, but that it was a case of first impression; and they contended that the title under the letters patent was one purely at law, and returnable there; likewise, that there was a remedy by *scire facias*. It was also objected that the word "fraud," which, if anything, must give jurisdiction to the Court in the case, was not in the whole bill. Also, among other things, it was objected that if letters patent should be impeached by an English bill in Chancery upon such suggestions and pretensions as these, no patentee could be safe, nor would the King's seal be of any force. To this it was replied, on the part of the King, that he may sue in what Court he pleases; that the bill charges surprise and false particulars, and that fraud is properly relievable here; that the King ought not to be in a worse condition than a subject; that a nobleman would be relieved of such a fraud put upon him by his servant; and that, if the King could not be relieved in this case by an English bill, he would be without remedy. Whereupon the Lord Keeper said: "The question is short, whether there be a fraud or not. If a fraud, it is properly relievable here. It is not fit such a matter as this should be stifled upon a plea; and therefore the Lord Keeper overruled the plea, and denied to save the benefit of it till

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the hearing, because he would not give any countenance to such a case."

So far as precedent is concerned, this case, which has never been overruled, establishes the doctrine that in a case of fraud in the obtaining of a patent, a Court of Chancery, by virtue of that fact, has jurisdiction to repeal or revoke it.

The case of *The King v. Butler*, 3 Lev. 220, which was heard in the House of Lords, was one where the King had made a grant of a market by letters patent to Sir Oliver Butler, the defendant. A writ of *scire facias* was brought in the Court of Chancery to repeal the grant, and the Lord Chancellor gave judgment that it should be vacated; whereupon, the matter was brought by a writ of error to the House of Lords, and, after argument there, the Peers requested the opinion of the judges then attending in Parliament, who all unanimously agreed that the judgment given in Chancery ought to be affirmed, and delivered their opinion accordingly. It was objected that the writ did not lie, because there was a remedy by the common law, to-wit, by assize of nuisance, where the matter should be tried by a jury, and by several judges, and not by one only, as it is in Chancery. To which they answered, that the King has an undoubted right to repeal a patent wherein he is deceived or his subjects prejudiced. And in none of the cases cited was there any question whether the writ would lie, but only the manner of pursuing it, and other incident matters. It was said that it was not unusual for the King to have his remedy as well as the subject also.

The whole text of the answers of the judges in this case seems to imply that a jury was not necessary, but that the existence of the record in the Court of Chancery was a sufficient foundation for the proceeding there, though it might be brought in some other Court, when the King had declared the patent forfeited, or when there had been office found. The judgment of the Court of Chancery was therefore affirmed. See on this subject *Queen v. Aires*, 10 Mod. 354;

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Queen v. Eastern Archipelago Co. 1 El. & Bl. 310; *Cumming v. Forrester*, 2 Jac. & W. 341.

But whatever may have been the course of procedure usual or requisite in the English jurisprudence, to enable the King to repeal, revoke or nullify his own patents, issued under his prerogative right, it can have but little force in limiting or restricting the measures by which the Government of the United States shall have a remedy for an imposition upon it or its officers in the procurement or issue of a patent. We have no king in this country; we have here no prerogative right of the Crown; and letters patent, whether for inventions or for grants of land, issue not from the President but from the United States. The President has no prerogative in the matter. He has no right to issue a patent, and, though it is the custom for patents for lands to be signed by him, they are of no avail until the proper seal of the Government is affixed to them. Indeed, a recent Act of Congress authorizes the appointment of a clerk for the special purpose of signing the President's name to patents of that character. And so far as patents for inventions are concerned, whatever may have been the case formerly, since the Act of July 8, 1870, they are issued without his signature and without his name or his style of office being mentioned in them. The authority for this procedure is embodied in the following language of the Revised Statutes:

"Sec. 4883. All patents shall be issued in the name of the United States of America, under the seal of the Patent Office, and shall be signed by the Secretary of the Interior and countersigned by the Commissioner of Patents, and they shall be recorded, together with the specifications, in the Patent Office, in books to be kept for that purpose."

This only expresses the necessary effect of the Acts of Congress. The authority by which the patent issues is that of the United States of America. The seal which is used is the seal of the Patent Office, and that was created by congressional enactment. It is signed by the Secretary of the In-

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terior, and the Commissioner of Patents, who also countersigns it, is an officer of that Department. The patent, then, is not the exercise of any prerogative power or discretion by the President or by any other officer of the Government, but it is the result of a course of proceeding, *quasi* judicial in its character, and is not subject to be repealed or revoked by the President, the Secretary of the Interior, or the Commissioner of Patents, when once issued. See *United States v. Schurz*, 102 U. S. 378.

It is not without weight, in considering the jurisdiction of a Court of Equity in regard to the power to impeach patents, that an appeal is provided from the decision of the Commissioner of Patents to the Supreme Court of the District of Columbia, and that the Revised Statutes enact as follows :

“Sec. 4915. Whenever a patent on application is refused, either by the Commissioner of Patents, or by the Supreme Court of the District of Columbia upon appeal from the Commissioner, the applicant may have remedy by bill in equity ; and the Court having cognizance thereof, on notice to adverse parties and other due proceedings had, may adjudge that such applicant is entitled, according to law, to receive a patent for his invention, as specified in his claim, or for any part thereof, as the facts in the case may appear.” It is then further provided, that if the adjudication be in favor of the applicant, it shall authorize the Commissioner of Patents to issue such patent upon the applicant's filing in the Patent Office a copy of the adjudication.

These provisions, while they do not in express terms confer upon the Courts of Equity of the United States the power to annul or vacate a patent, show very clearly the sense of Congress that if such a power is to be exercised anywhere it should be in the equity jurisdiction of those Courts. The only authority competent to set a patent aside, or to annul it, or to correct it, for any reason whatever, is vested in the Judicial Department of the Government, and this can only

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be effected by proper proceedings taken in the Courts of the United States.

This subject has been frequently discussed in this Court, and the principles necessary to its decision have been well established. The case of *United States v. Stone*, 2 Wall. 525, was a bill in Chancery brought by the United States, in the Circuit Court for the District of Kansas, to set aside a patent issued by the Government to Stone, the defendant. The question of the jurisdiction of the Court to entertain such a bill, which was denied by counsel for Stone, was discussed at considerable length in their brief, and in the argument of counsel for the United States the language of Chief Justice KENT, in *Jackson v. Lawton*, 10 Johns. 24, was cited to the following effect: "The English practice of suing out a *scire facias* by the first patentee may have grown out of the prerogative, and it ceases to be applicable with us. In addition to the remedy by *scire facias*, etc., there is another by bill in the equity side of the Court of Chancery. Such a bill was sustained in the case of *The Attorney-General v. Vernon*, 1 Vern. 277, to set aside letters patent obtained by fraud, and they were set aside by a decree."

This extract from the brief of counsel in the *Stone* case is cited to show that the attention of the Court was turned to this question, and the language of the opinion, as delivered by Mr. Justice GRIER, expresses in sententious terms the result arrived at by this Court in regard to this entire question. It is as follows: "A patent is the highest evidence of title, and is conclusive as against the Government, and all claiming under junior patents or titles, until it is set aside or annulled by some judicial tribunal. In England this was originally done by *scire facias*, but a bill in Chancery is found a more convenient remedy. Nor is fraud in the patentee the only ground upon which a bill will be sustained. Patents are sometimes issued unadvisedly or by mistake, where the officer has no authority in law to grant them, or where another party has a higher equity and should

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have received the patent. In such cases courts of law will pronounce them void. The patent is but evidence of a grant, and the officer who issues it acts ministerially and not judicially. If he issues a patent for land reserved from sale by law, such patent is void for want of authority. But one officer of the Land Office is not competent to cancel or annul the act of his predecessor. That is a judicial act, and requires the judgment of a Court. It is contended here, by the counsel of the United States, that the land for which a patent was granted to the appellant was reserved from sale for the use of the Government, and, consequently, that the patent is void. And although no fraud is charged in the bill, we have no doubt that such a proceeding in Chancery is the proper remedy, and that if the allegations of the bill are supported, the decree of the Court below canceling the patent should be affirmed."

We cite thus fully from this case because it is the first one in which the questions now before us were fully considered and clearly decided. In the previous case of *United States v. Hughes*, 11 How. 552, the same question came before the Court on demurrer. The Court held that the demurrer must be overruled, saying that it cannot "be conceived why the Government should stand on a different footing from any other proprietor." The case afterward came again before this Court, and is reported in 4 Wall. 232, later than the *Stone* case. The Court then said: "It was the plain duty of the United States to seek to vacate and annul the instrument, to the end that their previous engagement might be fulfilled by the transfer of a clear title, the only one intended for the purchaser by the Act of Congress."

In the case of *Moore v. Robbins*, 96 U. S. 530, this Court said, in a suit between private citizens, and speaking of the issue of patents by the Government: "If fraud, mistake, error, or wrong has been done, the Courts of Justice present the only remedy. These Courts are as open to the United States to sue for the cancellation of the deed or reconveyance

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of the land as to individuals; and if the Government is the party injured this is the proper course."

In *Moffat v. United States*, 112 U. S. 24, a decree of the Circuit Court setting aside a patent as having been obtained by fraud was affirmed; and the same doctrine was reasserted in *United States v. Minor*, 114 U. S. 233. Still later, in the case of *Colorado Coal & Iron Co. v. United States*, 123 U. S. 307, the right of the Court, by a proceeding in equity at the instance of the Attorney-General and in the name of the United States, to set aside a patent for land, was fully recognized, and the language used in the case of *United States v. Minor*, *supra*, was cited to the following effect: "Where the patent is the result of nothing but fraud and perjury, it is enough to hold that it conveys the legal title, and it would be going quite too far to say that it cannot be assailed by a proceeding in equity and set aside as void, if the fraud is proved and there are no innocent holders for value."

The whole question was reviewed at great length by this Court at its last term in the case of *United States v. San Jacinto Tin Co.*, 125 U. S. 273, when all the cases above mentioned, and others, were cited and commented upon. The matter is thus summed up in the opinion of the Court: "But we are of opinion that since the right of the Government of the United States to institute such a suit depends upon the same general principles which would authorize a private citizen to apply to a Court of Justice for relief against an instrument obtained from him by fraud or deceit, or any of those other practices which are admitted to justify a Court in granting relief, the Government must show that, like the private individual, it has such an interest in the relief sought as entitles it to move in the matter. If it be a question of property, a case must be made in which the Court can afford a remedy in regard to that property; if it be a question of fraud, which would render the instrument void, the fraud must operate to the prejudice of the United States; and if it is apparent that the suit is brought for the

123 U. S. 366-367.

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benefit of some third party, and that the United States has no pecuniary interest in the remedy sought, and is under no obligation to the party who will be benefited to sustain an action for his use; in short, if there does not appear any obligation on the part of the United States to the public, or to any individual, or any interest of its own, it can no more sustain such an action than any private person could under similar circumstances."

This language is construed by counsel for the appellee in this case to limit the relief granted at the instance of the United States to cases in which it has a direct pecuniary interest. But it is not susceptible of such construction. It was evidently in the mind of the Court that the case before it was one where the property right to the land in controversy was the matter of importance, but it was careful to say that the cases in which the instrumentality of the Court cannot thus be used are those where the United States has no pecuniary interest in the remedy sought, and is also under no obligation to the party who will be benefited to sustain an action for his use, and also where it does not appear that any obligation existed on the part of the United States to the public or to any individual. The essence of the right of the United States to interfere in the present case is its obligation to protect the public from the monopoly of the patent which was procured by fraud, and it would be difficult to find language more aptly used to include this in the class of cases which are not excluded from the jurisdiction of the Court by want of interest in the Government of the United States.

It is insisted that these decisions have reference exclusively to patents for land, and that they are not applicable to patents for inventions and discoveries. The argument very largely urged for that view is the one just stated, that in the cases which had reference to patents for land the pecuniary interest of the United States was the foundation of the jurisdiction. This, however, is repelled by the language just cited, and by

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the fact that in more than one of the cases, notably in United States *v.* Hughes, *supra*, the right of the Government to sustain the suit was based upon its legal or moral obligation to give a good title to another party who had a prior and a better claim to the land, but whose right was obstructed by the patent issued by the United States.

The case of Mowry *v.* Whitney, 14 Wall. 434 [8 Am. & Eng. 506], was a bill in Chancery brought by Mowry, in the Circuit Court for the Eastern District of Pennsylvania, against Whitney, charging that Whitney's patent for a mode of annealing and cooling cast-iron car wheels, and an extension of it made by the Patent Office, had been procured by fraud and false swearing, and praying that it and the extension might be declared void and of no effect. To this bill Whitney demurred. The demurrer was sustained by the Court below, and from the decree dismissing the bill Mowry took an appeal to this Court, where it was said "that the complainant could not, in his own right, sustain such a suit." In giving its reasons for this, the Court said: "We are of opinion that no one but the Government, either in its own name or the name of its appropriate officer, or by some form of proceeding which gives official assurance of the sanction of the proper authority, can institute judicial proceedings for the purpose of vacating or rescinding the patent which the Government has issued to an individual, except in the cases provided for in section 16 of the Act of July 4, 1836. The ancient mode of doing this in the English Courts was by *scire facias*, and three classes of cases are laid down in which this may be done." One of these is: "When the King has granted a thing by false suggestion, he may, by *scire facias*, repeal his own grant. (Citing 4 Inst. 88; Dyer, 197-8, and 276, 279.) . . . The *scire facias* to repeal a patent was brought in Chancery where the patent was of record. And though in this country the writ of *scire facias* is not in use as a Chancery proceeding, the nature of the Chancery jurisdiction and its mode of proceeding have established it as the

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appropriate tribunal for the annulling of a grant or patent from the Government. This is settled, so far as this Court is concerned, by the case of *United States v. Stone*, 2 Wall. 525." The opinion then refers to *Attorney-General v. Vernon and Jackson v. Lawton*, already cited.

It is said that this language of the Court is *obiter*, and does not decide directly that a suit can be brought in Chancery to cancel or annul a patent issued by the United States Government for an invention. It is true that what the Court was called upon to decide was that a private citizen could not bring such suit; but evidently the reason given for it must be held to establish the principle upon which the Court acted, and that reason was that the private citizen could not do it because the right lay with the Government. The duty and the right of the Government to bring an action which would end in the destruction of the patent, and which would thus protect everybody against the asserted monopoly of it, was the reason why the private citizen could not for himself bring such a suit.

Another reason given by the Court is that the fraud, if one exists, must have been practiced on the Government, which, as the party injured, is the appropriate party to seek relief, and that a suit by an individual could only be conclusive in result as between the patentee and the party suing, and the patent would remain a valid instrument as to all others; while, if the action was brought by the Government, and a decree had to annul the patent, this would be conclusive in all suits founded on the patent. Other reasons were given, showing that the United States was the appropriate party to bring such a suit, and that the Circuit Court of the United States, sitting in equity, was the proper tribunal in which to bring it; all tending to show that the reason why a private citizen could not have such relief was that it belonged to the Government.

The United States, by issuing the patents which are here sought to be annulled, has taken from the public rights of

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immense value and bestowed them upon the patentee. In this respect the Government and its officers are acting as the agents of the people, and have, under the authority of law vested in them, taken from the people this valuable privilege and conferred it as an exclusive right upon the patentee. This is property, property of a value so large that nobody has been able to estimate it. In a former argument in this Court, it was said to be worth more than twenty-five millions of dollars. This has been taken from the people, from the public, and made the private property of the patentee by the action of one of the departments of the Government acting under the forms of law, but deceived and misled, as the bill alleges, by the patentee. That the Government, authorized both by the Constitution and the statutes to bring suits at law and in equity, should find it to be its duty to correct this evil, to recall these patents, to get a remedy for this fraud, is so clear that it needs no argument; and we think we have demonstrated that the proper remedy is the one adopted by the Government in this case.

But conceding that, in regard to patents for land, and in reference to other transactions, in which the Government is a party, the Courts of Equity have jurisdiction to correct mistakes, to give relief for frauds, and to cancel contracts and other important instruments, it is said that in reference to patents for inventions and discoveries the Acts of Congress have provided another remedy for frauds committed in obtaining them, and for the very class of frauds set up in this bill. Counsel therefore contend that this supersedes all others. This remedy is found in the following provision of the Revised Statutes:

“Sec. 4920. In any action for infringement the defendant may plead the general issue, and having given notice in writing to the plaintiff or his attorney thirty days before, may prove on trial any one or more of the following special matters:

“1st. That for the purpose of deceiving the public the

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description and specification filed by the patentee in the Patent Office, was made to contain less than the whole truth relative to his invention or discovery, or more than is necessary to produce the desired effect; or,

"2d. That he had surreptitiously or unjustly obtained the patent for that which was in fact invented by another, who was using reasonable diligence in adapting and perfecting the same; or,

"3d. That it had been patented or described in some printed publication prior to his supposed invention or discovery thereof; or,

"4th. That he was not the original and first inventor or discoverer of any material and substantial part of the thing patented; or,

"5th. That it had been in public use or on sale in this country for more than two years before his application for a patent, or had been abandoned to the public."

Prior to the year 1836, from the earliest enactments of patent law, certain provisions had been incorporated in that law authorizing a *scire facias* to issue to declare a patent void for want of invention by the patentee, and other matters, which, though instituted by a private individual, was under the control of the official attorneys of the Government. This was repealed by the Act of 1836, which may be said to be the first real and successful organization of the Patent Office and the system of patent law in the United States. The law on this subject was revised by the Act of Congress of July 8, 1870 (16 U. S. Stats. at L. 198), and the Revised Statutes of the United States, from which section 4920 is quoted, contain the language applicable to this subject.

The Statute of 1836 repealed the provision for a *scire facias*. It is now argued that the repeal of this provision, together with the enactment of the provision of section 4920, show that the only remedy for the improvident issuing of a patent is to be found in the language of that section. These clauses, while they do not in any general form declare that a person

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sued for an infringement of a patent may set up as a defence that it was procured by fraud or deceit, do in effect specify various acts of fraud which the infringer may rely upon as a defence to a suit against him founded upon that instrument. It is, therefore, urged that because each individual affected by the monopoly of the patent is at liberty, when he is sued for using it without license or authority, to set up these defences, the remedy which the United States has under the principles we have attempted to sustain, is superseded by that fact. But a consideration of the nature and effect of these different modes of proceeding in regard to the patent will show that no such purpose can be inferred from these clauses of the Act of Congress.

In the first place, the right given to the infringer to make this defence is a right given to him personally, and to him alone, and the effect of a successful defence of this character by one infringer is simply to establish the fact that, as between him and the patentee, no right of action exists for the reasons set up in such defence. But the patentee is not prevented by any such decision from suing a hundred other infringers, if so many there be, and putting each of them to an expensive defence, in which they all, or some of them, may be defeated and compelled to pay, because they are not in possession of the evidence on which the other infringer succeeded in establishing his defence. On the other hand, the suit of the Government, if successful, declares the patent void, sets it aside as of no force, vacates it or recalls it, and puts an end to all suits which the patentee can bring against anybody. It opens to the entire world the use of the invention or discovery in regard to which the patentee had asserted a monopoly.

This broad and conclusive effect of a decree of the Court, in a suit of that character brought by the United States, is so widely different, so much more beneficial, and is pursued under circumstances so much more likely to secure complete justice, than any defence which can be made by an individual infringer, that it is impossible to suppose that Congress, in

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granting this right to the individual, intended to supersede or take away the more enlarged remedy of the Government. Some of these specifications of grounds of defence are not such as would ordinarily be sufficient in a Court of Equity to set aside the patent, as "that it had been in public use or on sale in this country for more than two years," or "that it had been patented or described in some printed publication prior to his supposed invention or discovery thereof." It is unnecessary to decide whether these grounds now would be sufficient cause for setting aside a patent in a suit by the United States; but they are not of that general character which would give a Court of Equity jurisdiction to do that, except as it may be said they are now parts of the general system of the patent law.

A question almost identical with this was made in the House of Peers in the case of *The King v. Butler*, 3 Lev. 220, as to whether the judgment obtained by the King in the Court of Chancery repealed the grant to Butler. It was answered by the judges to some of the objections that "It was not unusual for the King to have his remedy, as well as the subject also; as for batteries, trespasses, etc., the King has a remedy by information and indictment, and the party grieved by his action."

The argument need not be further extended. There is nothing in these provisions expressing an intention of limiting the power of the Government of the United States to get rid of a patent obtained from it by fraud and deceit. And although the Legislature may have given to private individuals a more limited form of relief, by way of defence to an action by the patentee, we think the argument that this was intended to supersede the affirmative relief to which the United States is entitled, to obtain a cancellation or vacation of an instrument obtained from it by fraud, an instrument which affects the whole public, whose protection from such a fraud is eminently the duty of the United States, is not sound.

Notes and citations.

The decree of the Circuit Court dismissing the bill of plaintiff is reversed, and the case remanded to that Court, with directions to overrule the demurrer, with leave to defendants to plead or answer, or both, within a time to be fixed by that Court.

Mr. Justice GRAY was not present at the argument and took no part in the decision of this case.

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Notes :

1. Multifariousness. Joinder of two or more patents in bill.
Seymour *v.* Osborne, 11 Wall. 516 [8 Am. & Eng. 290].

5. Repeal of letters patent.
Wood & Brundage, 9 Wheat. 603 [4 Am. & Eng. 198].
Grant *v.* Raymond, 6 Pet. 218 [4 Am. & Eng. 245].
Bourne *v.* Goodyear, 9 Wall. 811 [8 Am. & Eng. 209].
Rubber Co. *v.* Goodyear, 9 Wall. 788 [8 Am. & Eng. 150].
Eureka Co. *v.* Bailey, 11 Wall. 488 [8 Am. & Eng. 280].
Mowry *v.* Whitney, 14 Wall. 620 [9 Am. & Eng. 1].

6. *Scire Facias*.
Wood & Brundage, 9 Wheat. 603 [4 Am. & Eng. 198].
Mowry *v.* Whitney, 14 Wall. 620 [9 Am. & Eng. 1].

18. Act 1790, Sec. 6; Act 1793, Sec. 6; Act 1836, Sec. 15; Act 1870, Sec. 61; R. R. Sec. 4920.

Notes and citations.

Patents in suit :

No. 174,465. A. G. Bell. March 7, 1876. Improvements in Telegraphy.

No. 186,787. A. G. Bell. January 30, 1877. Improvements in Telegraphy.

OTHER SUITS ON SAME PATENTS.

American Bell Telephone Co. v. Spencer, 1881. 8 Fed. Rep. 509; 20 O. G. 299.

American Bell Telephone Co. v. Dolbear, 1883. 15 Fed. Rep. 448; 23 O. G. 535.

American Bell Telephone Co. v. Dolbear, 1883. 17 Fed. Rep. 604.

American Bell Telephone Co. v. People's Telephone Co., 1884. 22 Fed. Rep. 309; 22 Blatch. 531; 29 O. G. 1029.

American Bell Telephone Co. v. People's Telephone Co., 1885. 25 Fed. Rep. 725; 34 O. G. 561.

American Bell Telephone Co. v. Ghegan, 1882. 23 O. G. 537.

American Bell Telephone Co. v. National Improved Telephone Co., 1886. 27 Fed. Rep. 663.

United States v. American Bell Telephone Co., 1886. 29 Fed. Rep. 17; 38 O. G. 1237.

United States v. American Bell Telephone Co., 1887. 30 Fed. Rep. 523.

American Bell Telephone Co. v. Globe Telephone Co., 1887. 31 Fed. Rep. 729; 24 Blatch. 522.

United States v. American Bell Telephone Co., 1887. 32 Fed. Rep. 591; 41 O. G. 123.

American Bell Telephone Co. v. American Cushman Telephone Co., 1888. 35 Fed. Rep. 734.

American Bell Telephone Co. v. Cushman Telegraph and Service Co., 1888. 36 Fed. Rep. 488.

The Telephone Cases, 1888. 126 U. S. 1 [18 Am. & Eng. 1].

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Notes and citations.

Cited :

IN CIRCUIT COURT IN :

United States v. American Bell Telephone Co., September, 1889.
39 Fed. Rep. 716.

IN TEXT BOOKS :

Walker on Patents, 2d ed., 1889. pp. 119, 250.
Robinson on Patents, 1890. §§ 725, 1108.

[illegible]

Argument of counsel.

THE FARMER'S FRIEND MANUFACTURING COMPANY, APPELLANT, v. THE CHALLENGE CORN-PLANTER COMPANY.*

128 U. S. 506-510. October Term, 1888.

[Bk. 32, L. ed., 529; 45 O. G. 1570.]

Affirming, *Ibid.*: 23 Fed. Rep. 42.

Argued November 21, 1888. Decided December 10, 1888.

Particular reissued patent construed. Void enlargement of reissue claims.

1. The claim in letters patent, No. 231,104, granted August 10, 1880, to Michael Runstetler, for an Improvement in Corn-Planters, construed and limited to a mechanism consisting of a slotted lever connected with the runner-frame by a bolt, and the hand lever mounted upon a shaft journaled at one end to the main frame and at the other end to the seat-stand-ard, thereby facilitating the depression of the runners by a single movement. (p. 95.)
2. The enlargement of the above claim of the original patent to claims in reissue No. 10,155, granted July 11, 1882, such as to embrace machines not containing the feature to which the claim in the original patent is limited, is void under the rules established by the recent decision of the Supreme Court. (p. 96.)

Appeal from a decree of the Circuit Court of the United States for the Western District of Michigan, dismissing a suit in equity for the infringement of reissued letters patent.

Reported below, 23 Fed. Rep. 42.

The facts are stated in the opinion.

Messrs. E. E. WOOD and EDWARD BOYD, for appellant:

Practical utility is an important factor in determining the novelty of an alleged invention.

Smith v. Goodyear Dental V. Co., 93 U. S. 486, 495 [11

* See Explanation of Notes, page III.

Argument of counsel.

Am. & Eng. 1]; *Webster Loom Co. v. Higgins*, 105 U. S. 580, 591 [14 *Am. & Eng. 70*]; *Eames v. Andrews*, 122 U. S. 40, 47 [17 *Am. & Eng. 98*].

Whether a reissued patent is for the same invention as that in the original patent is a question for the Court in an equity suit on a comparison of the two instruments.

Seymour v. Osborne, 11 Wall, 545 [8 *Am. & Eng. 290*]; *Mahn v. Harwood*, 112 U. S. 354, 358 [15 *Am. & Eng. 322*].

A patentee has the right to claim by reissue everything shown as invention in the original patent, unless abandoned.

Parker & W. Co. v. Yale Clock Co., 123 U. S. 87, 99 [17 *Am. & Eng. 194*].

When an invention is new and useful, and fully shown in an original patent, the inventor can always secure the invention by a reissue.

Odell v. Stout, 22 Fed. Rep. 161; *Wheeler v. Clipper M. & R. Co.*, 10 Blatch. 181; *Wooster v. Handy*, 21 Fed. Rep. 51; *Coon v. Wilson*, 113 U. S. 268 [15 *Am. & Eng. 504*].

When the reissue is applied for within two years from the date of the original patent, the delay does not of itself render the reissue invalid or voidable.

Wollensak v. Reiher, 115 U. S. 96, 101 [16 *Am. & Eng. 162*].

Mr. ARTHUR STEM, for appellee:

There may be invention in applying a new device to an old object, but in applying an old contrivance to a new use there can not.

Curtis, Patents, § 56; *Losh v. Hague*, 1 Web. Pat. Cas. 207 [2 *Am. & Eng. 501*]; *Tucker v. Spaulding*, 13 Wall. 453 [8 *Am. & Eng. 474*]; *Brown v. Piper*, 91 U. S. 37 [10 *Am. & Eng. 272*]; *Roberts v. Ryer*, 91 U. S. 157 [10 *Am. & Eng. 302*]; *Atlantic Works v. Brady*, 107 U. S. 192 [14 *Am. & Eng. 380*].

The fact that the planters were extensively made and sold while appellant slept on its rights for nearly two years is sufficient ground to invalidate the reissue.

Opinion of the Court.

Mahn v. Harwood, 112 U. S. 354 [15 Am. & Eng. 322].

The patentee could not then come back, and by reissue claim as his own what he had constructively dedicated to the public.

Sargent v. Hall Safe & Lock Co., 114 U. S. 63 [15 Am. & Eng. 573]; *Shepard v. Carrigan*, 116 U. S. 593 [16 Am. & Eng. 235]; *Sutter v. Robinson*, 119 U. S. 530 [16 Am. & Eng. 481]; *Miller v. Bridgeport Brass Co.*, 104 U. S. 350 [13 Am. & Eng. 308]; *Flower v. Detroit*, 127 U. S. 563 [18 Am. & Eng. 621]; *Wollensak v. Reiher*, 115 U. S. 96 [16 Am. & Eng. 162]; *Laggett v. Avery*, 101 U. S. 256 [12 Am. & Eng. 369].

The reissue covers an invention entirely different from that claimed in the original.

Parker & W. Co. v. Yale Clock Co., 123 U. S. 87 [17 Am. & Eng. 194]; *Hoskin v. Fisher*, 125 U. S. 217 [17 Am. & Eng. 589]; *Flower v. Detroit*, 127 U. S. 571 [18 Am. & Eng. 621].

Mr. Justice GRAY delivered the opinion of the Court:

This is an appeal from a decree dismissing a bill in equity for the infringement of letters patent, issued August 10, 1880, and reissued July 11, 1882, for improvements in corn-planters. 23 Fed. Rep. 42.

The drawings referred to in the two patents were alike. So much of the specifications as related to the matter in controversy differed, as shown below; the words of the original patent omitted in the reissue being printed in brackets, and those inserted in the reissue printed in italics.

"My invention relates to an improvement in the corn-planters of the class employing a main frame mounted on wheels, which main frame is combined with a runner-frame in front, and so attached to the main frame that it may be either a rigid or yielding planter, and also employing cone-gears and driving-chains to actuate the dropping mechanism
123 U. S. 506-507.

M. RUNSTETLER.

Assignor to the FARMER'S FRIEND MANUFACTURING COMPANY.

CORN PLANTER.

No. 10,155.

Reissued July 11, 1882.

Fig. 1.

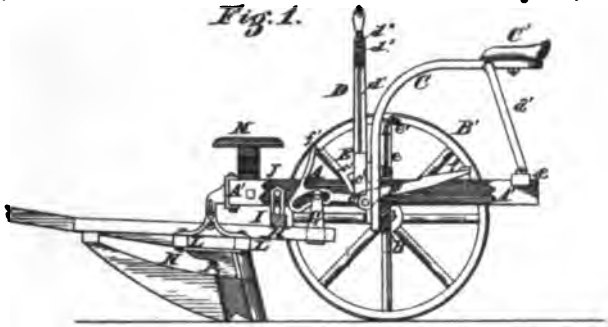


Fig. 2.

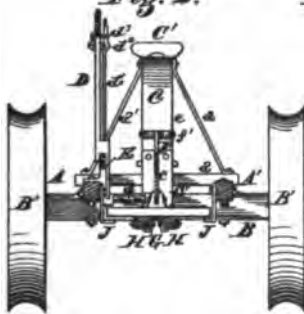


Fig. 3.

Fig. 4.

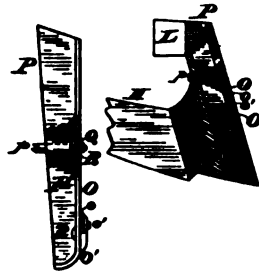


Fig. 5.

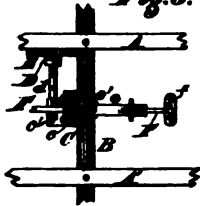


Fig. 6.



Attest,
Jno. C. Hales.
Herbert P. Cook.

Inventor;
M. Runstetler
by H. H. Hays
his Attorney.



Opinion of the Court.

for planting, and adapted to be used either as a rigid or yielding planter.

"My improvement consists, first, in the arrangement of a lifting hand-lever [mounted upon a shaft and] connected to [the] a foot-lever [centrally] *which* is pivoted to the main frame, the forward end of which lever is hinged to the runner-frame, [and] the several parts being so arranged that the runner-frame may be controlled by either the hand-lever or foot-lever, or both, at the will of the operator.

"*My invention further consists in combining with the hand-lever [being combined with] detachable fastening devices, so as to be set in proper position to form a rigid planter, and so that the fastening devices can be dispensed with, and the hand and foot levers used to control the operation of the machine, when used as a yielding planter.*"

"In the accompanying drawings, Fig. 1 is a side elevation, partly in section, of a corn-planter embodying the first features of my invention. Fig. 2 is a front elevation, partly in section, of the same. Fig. 3 is a broken plan view, partly in section, showing the connection between the hand and foot levers.

"*d* represents a shaft journaled at one end [to] in the main frame and at the other to the seat-standard.

"*c*' represents the journal-bracket at the seat-standard, the foot-lever *F* being rigidly connected to and journaled on [the] shaft *d*.

"*D* represents a hand-lever rigidly [attached to] *connected to the foot-lever by shaft d, or other equivalent means.*

"*E* represents a segmental notch-plate rigidly fastened to the main frame *A*.

"*d*' represents a lock for lever *D*, passing through the shoulder of lever *D*, and engaging at one end with the segmental notch-plate *E*, and hinged at the other end to a bell-crank lever, *d*², the movement of which locks and unlocks the lifting-lever *D*.

"When it is desired to operate the machine as a yielding

Opinion of the Court.

planter, the locking device *d'* is thrown out of connection with the segment-plate, and secured by a hasp, *d*³, the hand and foot levers then being free to vibrate with the runner-frame and under control of the operator. When the locking devices of the lifting-lever D are brought into operation, the operator sets the running-frame in any given position by means of lever D, the lock-lever holding it rigid, but under easy control of the hand; or the foot-lever may be used to assist in raising or lowering the frame, and the weight of the driver may be thrown upon the foot-lever to force the runners into the ground, if necessary."

The original patent contained the following claim, the words here printed in brackets being those omitted in the reissue:

"In a corn-planter having the rear main frame mounted on supporting wheels, the front runner-frame hinged or pivoted to the main frame, [and operated by an elevating and depressing lever pivoted to the main frame, having its front end slotted, and connected to the runner-frame by a bolt passing through said slot, in combination with the shaft *d* and the lifting hand-lever D, rigidly attached to said shaft, for elevating, depressing, and controlling the runner-frame, substantially as herein set forth.]"

For this claim the reissue substituted the following four claims, the new words in which are here printed in italics:

"1st. In a corn-planter having the rear main frame mounted on supporting wheels, *and the front runner-frame hinged or pivoted to the main frame, the combination of a foot-treadle and a hand-lever adapted to be used, in conjunction or independently, for the purpose of elevating or depressing the runners, substantially as herein set forth.*

"2d. In a corn-planter having the rear main frame mounted on supporting wheels, *and the front runner-frame hinged or pivoted to the main frame, a foot-treadle for elevating or depressing the runner-frame, in combination with a hand lock-lever, the foot-treadle and hand-lever adapted to be used in*

123 U. S. 503-509.

Opinion of the Court.

conjunction for forcing and locking the runners into the ground or lifting and locking them out of the ground, substantially as herein set forth.

"3d. In a corn-planter having the rear main frame mounted on supporting wheels, and the front runner-frame hinged or pivoted to the main frame, a foot-treadle for elevating or depressing the runner-frame, in combination with a hand-lever rigidly connected therewith, that either hand-lever or treadle may be used for forcing the runners into the ground or lifting them out of the ground, substantially as herein set forth.

"4th. The combination, in a corn-planter having the rear main frame mounted on supporting wheels, and a front runner-frame hinged or pivoted to the main frame, of a foot-treadle for elevating the runner-frame, and a hand-lever for elevating or depressing the same, both arranged to move simultaneously when either is acted upon by an operator."

It thus appears that while the claims, both of the original patent and of the reissue, relate to a corn-planter having the rear main frame mounted on supporting wheels, and the front runner-frame hinged or pivoted to the main frame, the difference between them is this:

The claim in the original patent is limited to a lever having its front end slotted, and connected with the runner-frame by a bolt passing through the slot, in combination with a shaft journaled at one end to the main frame and at the other to the seat-standard, and with a lifting hand-lever rigidly attached to that shaft, for elevating, depressing, and controlling the runner-frame.

In the reissue, on the contrary, the 1st and 4th claims undertake to cover any form of foot-lever or treadle and hand-lever used in combination for the purpose of elevating or depressing the runners; the 2d claim differs only in being restricted to a hand lock-lever used in connection with the foot-lever; and the 3d claim, in requiring the two levers to be rigidly connected.

In the Kelly machine, patented September 14, 1875, and

Notes and citations.

in public use before the plaintiff's invention, a foot-lever and hand-lever had been used in combination, rigidly connected together (certainly quite as much so as in the defendant's machine), and with a lock on the hand-lever.

The only feature of the plaintiff's machine which can possibly be considered as new is a slotted lever connected with the runner frame by a bolt, and the hand-lever mounted upon a shaft journaled at one end to the main frame and at the other end to the seat-standard, thereby facilitating the depressing of the runners by a single movement. The claim in the original patent is limited to a mechanism containing that feature, which is not found in the defendant's machine. The enlargement of the claims in the reissue, so as to embrace machines not containing that feature, is void, under the rule established by recent decisions of this Court, too numerous and familiar to require citation.

Decree affirmed.

133 U. S. 510.

Patent in suit:

No. 231,104. M. Runstetler. August 10, 1880. Corn-Planter. Reissue No. 10,155. July 11, 1882.

OTHER SUITS ON SAME PATENT:

Farmers' Friend Manufacturing Company v. Challenge Corn Planter Company. 1885. 23 Fed. Rep. 42; 30 O. G. 661.

Cited: .**IN TEXT BOOKS:**

Walker on Patents, 2d ed., 1889, p. 181.

Robinson on Patents, 1890, § 661.

Syllabus.

ELON A. MARSH ET AL, APPELLANTS, v. NICHOLS,
SHEPARD AND COMPANY, A CORPORATION.*

128 U. S. 605-616. October Term, 1888.

[Bk. 32, L. ed. 538; 46 O. G. 239.]

Affirming Marsh v. Nichols, 15 Fed. Rep. 914; 24 O. G. 901.

Argued November 9, 1888. Decided December 10, 1888.

*Signature of Secretary of Interior to patent, R. S. Sec. 4883.
Omission of signature fatal to patent. Authority of Department to correct errors. Special Act construed.*

1. Letters patent, No. 236,052, E. A. Marsh, December 28, 1880, Steam Engine Valve Gear, *held* to have been void at the date of issue owing to the omission of the signature of the Secretary of the Interior prescribed by R. S. Sec. 4883; to have been properly corrected thirteen months later by the signature of the Acting Secretary, who held the office at date of the correction, and to run as to its term from the date of such correction, which, though not written in the patent, could be shown by proof. (p. 104.)
2. While a patent of the United States, whether for land or for an invention, can be attacked for defects, not apparant on its face, only by regular proceedings instituted for that purpose, and is not open to collateral attack, except where specially provided by statute, this rule applies only to such patents as have been in fact executed and where the authority of the officers to issue the same was complete. (p. 107.)
3. It is always open to show that a patent produced in evidence, whether in an action at law or a suit in equity, in support of a claim or defence was never signed by the officers whose names are attached to it, or when they were in office, or at the time stated. (p. 107.)
4. A patent for an invention conveys nothing which the Government owns or its predecessor ever owned; it is the evidence of the inventor's exclusive right, and creates for him when issued, a property interest, which Government

* See Explanation of Notes, page III.

Syllabus.

- secures to him by a grant. Prior to issue there is no property right in it, that is, no such right as the inventor can enforce. (p. 109.)
5. The signature of all the officers named in R. S. Sec. 4883 must be attached to the patent, or it will be an incompleting document, and therefore ineffectual to confer "The exclusive right to make, use or vend the invention" of R. S. Sec. 4884; and the omission of one signature is no more permissible than the omission of all. (p. 110.)
 6. A clerical error is an error of a clerk or a subordinate officer in transcribing or entering an official proceeding ordered by another. (p. 112.)
 7. *Held* that while the failure of the Acting Secretary of the Interior to sign a patent was not a mere clerical error, but an omission of a signature essential to the creation of the instrument as a patent, the power of the Department to prevent the consequences of inadvertences and mistakes in its officers extend so far as to remedy such omission; but the correction must be made by the existing officers of the Department, not by former officers who have gone out of office. (p. 112.)
 8. R. S. Sec. 4885, which declares that "every patent shall bear date as of a day not later than six months from the time at which it was passed and allowed, and notice thereof was sent to the applicant or his agent," is intended to prescribe the date on which a patent would begin to run. (p. 113.)
 9. Where an omission in a patent of a signature essential to its validity was corrected at a date subsequent to the issue of the patent, but the date of correction did not appear, *held* that the latter date which was the true date from which the patent would begin to run, being more than six months (R. S. Sec. 4885) after the date written in the patent, could be shown by proof. (p. 114.)
 10. Where the patent was void when the suit was brought, pending which it was rendered valid, *held* that there could be no accounting for profits earned subsequently to the suit, which was not tenable at the date of its commencement.

Argument of counsel.

An accounting for such profits after suit can be demanded only where the infringement complained of took place previously and continued afterwards. (p. 114.)

11. The special Act of February 3, 1887, for the relief of Marsh and Lefever, construed in view of the proviso to have no retroactive effect. (p. 114.)

[Cited in the opinion of the court:]

Eureka C. W. Machine Co. v. Bailey W. & W. Machine Co., 11 Wall. 488, 492 [8 Am. & Eng. 280]. p. 107.

St. Louis Smelting & Ref. Co. v. Kemp, 104 U. S. 636, 641. p. 108.

Steel v. St. Louis Smelting & Ref. Co., 106 U. S. 447, 452, 453. p. 108.

Mahn v. Harwood, 112 U. S. 354, 358 [15 Am. & Eng. 322]. p. 108.

Anthony v. Jasper Co., 101 U. S. 693, 698. p. 108.

Langdeau v. Hanes, 21 Wall. 521, 529. p. 109.

Gayler v. Wilder, 10 How. 477, 493 [5 Am. & Eng. 188]. p. 109.

McGarrahan v. New Idria Mining Co., 96 U. S. 316. p. 110.

Bell v. Hearne, 19 How. 252. p. 111.

Wayman v. Southard, 10 Wheat. 1, 30. p. 114.

Appeal from a decree of the Circuit Court of the United States for the Eastern District of Michigan, dismissing a suit in equity for the infringement of a patent for an invention.

Cross appeal in the same case.

The facts are stated in the opinion.

Mr. R. A. PARKER, for Marsh *et al.*:

Defendant could not impeach complainants' patent for the supposed irregularity in its signing and issue, it not being apparent on the face thereof, without pleading such defence.

Providence Rubber Co. v. Goodyear, 9 Wall. 788 [8 Am. & Eng. 150]; *Giant Powder Co. v. Safety Nitro Powder Co.* 19 Fed. Rep. 509, 511; *Railway Reg. Mfg. Co. v. North Hudson, etc., R. Co.* 28 Fed. Rep. 593; *Morehead v. Jones*, 8 Wall. Jr. 306.

The patent in question being regular on its face, no evidence is competent to show that the signatures, seal or attes-

Argument of counsel.

tation of the issuing thereof was irregular, or to contradict the facts stated on its face, whether pleaded or not.

1 Greenl. Ev. 275, note; *Kavanaugh v. Day*, 10 R. I. 393; *Jamison v. Jamison*, 3 Whart. 457, 469; *Ross v. McLung*, 6 Pet. 283; *Bruckner v. Lawrence*, 1 Doug. (Mich.) 80; *Stringer v. Young*, 3 Pet. 320; *Doughty v. West*, 6 Blatch. 429; *Phil. & T. R. Co. v. Stimpson*, 14 Pet. 448 [4 Am. & Eng. 324]; *Eureka C. W. Machine Co. v. Bailey W. & W. Machine Co.* 11 Wall. 488, 492 [8 Am. & Eng. 280]; *Railway Reg. Mfg. Co. v. North Hudson, etc.*, R. Co. 23 Fed. Rep. 593.

The signing by the Assistant Secretary of the Interior in legal effect was neither irregular nor invalid.

2 Bl. Com. 343; *U. S. v. Schurz*, 102 U. S. 378; *Woodworth v. Hall*, 1 Wood. & M. 389; *Butterworth v. U. S.* 112 U. S. 50 [15 Am. & Eng. 282]; *Evans v. Jordan*, 1 Brock. 252; *Bell v. Hearne*, 19 How. 252 [4 Am. & Eng. 436]; *Wilson v. Rousseau*, 4 How. 646; *York & M. L. R. Co. v. Winans*, 17 How. 80 [6 Am. & Eng. 221].

The Act of Congress makes this patent valid from its original date, and cures all the irregularities.

Blanchard v. Sprague, 2 Story, 170; *Evans v. Eaton*, 3 Wheat. 454 [4 Am. & Eng. 16]; *Evans v. Eaton*, 7 Wheat. 356 [4 Am. & Eng. 105]; *Tilghman v. Proctor*, 102 U. S. 707 [13 Am. & Eng. 29].

Remedial statutes enacted during the intervention of an appeal to this Court will be followed by this Court in its final action.

Watson v. Mercer, 8 Pet. 88; *Yeaton v. U. S.* 5 Cranch. 281; *Randall v. Kreiger*, 23 Wall. 148; *Cooley, Const. Lim.* and note 381; *Evans v. Eaton*, 1 Pet. C. C. 322; *Calder v. Bull*, 3 Dall. 386; *Ogden v. Saunders*, 12 Wheat. 213.

Defendant's cross appeal should be dismissed.

Agawam Woolen Co. v. Jordan, 7 Wall. 583 [8 Am. & Eng. 24]; *Wise v. Allis*, 9 Wall. 737 [8 Am. & Eng. 143]; *Cammeyer v. Newton*, 94 U. S. 225 [11 Am. & Eng. 98];

Argument of counsel.

Marsh v. Seymour, 97 U. S. 348 [12 Am. & Eng. 53]; *Bates v. Coe*, 98 U. S. 81 [12 Am. & Eng. 150]; *Phila. W. & B. R. Co. v. Dubois*, 12 Wall. 47 [8 Am. & Eng. 433].

Objection to want of notice must be made before hearing.

Roemer v. Simon, 95 U. S. 214 [11 Am. & Eng. 348]; *Webster Loom Co. v. Higgins*, 105 U. S. 580 [14 Am. & Eng. 70].

Clearly anticipatory devices must cover the same combination of the same elements or their mechanical equivalents, combined in substantially the same manner, or having same mode of operation to produce the same results.

Gill v. Wells, 22 Wall. 24 [9 Am. & Eng. 471]; *Bates v. Coe*, 98 U. S. 38-48 [12 Am. & Eng. 150]; *Cantrell v. Wallick*, 117 U. S. 689 [16 Am. & Eng. 322]; *Cahoon v. Ring*, 1 Cliff. 620; *Werner v. King*, 96 U. S. 218 [11 Am. & Eng. 419]; *Re Herron*, 1 Off. Gaz. 608; *Webster Loom Co. v. Higgins*, *supra*.

An abandoned experiment does not form a part of the state of art.

Aultman v. Holley, 11 Blatch. 317; *Agawam Woolen Co. v. Jordan*, *supra*; *Whittlesey v. Ames*, 9 Biss. 225.

Want of novelty must be established beyond a reasonable doubt.

Cantrell v. Wallick, *supra*.

Mr. CHARLES F. BURTON, for Nichols, Shepard & Co.:

Assignment of Scott is no part of the record.

Fisher v. Cockerell, 5 Pet. 248; *Sargeant v. State Bank*, 12 How. 371; *England v. Gebhardt*, 112 U. S. 502.

The right to inquire into the patent is established.

Koehler v. Black River Falls Iron Co. 2 Black, 715; *Bissell v. Spring Valley*, 110 U. S. 162; *Anthony v. Jasper Co.* 101 U. S. 693.

It is not until the department has vested the inventor with his title, under a completed patent, that the inventor is in a position to assert any rights under the patent.

Argument of counsel.

Gayler v. Wilder, 10 How. 477 [5 Am. & Eng. 188]; Pontiac Knit Boot Co. v. Merino Shoe Co. 31 Fed. Rep. 288; Smith v. Goodyear Dental Vulcanite Co. 93 U. S. 486 [11 Am. & Eng. 1]; Emerson v. Lippert, 31 Fed. Rep. 911; Seibert Cylinder Oil Co. v. William Powell Co. 35 Fed. Rep. 591.

Until the formalities prescribed by the statute are complied with, the franchise is not created.

McGarrahan v. New Idria Mining Co. 96 U. S. 316; Anthony v. Jasper Co. 101 U. S. 693; Goodman v. Randall, 44 Conn. 321.

The right of an inventor to his invention, when secured by patent, is a franchise.

Jordan v. Dayton, 4 Ohio, 295; Patterson v. Ky. 97 U. S. 501 [12 Am. & Eng. 106].

A patent is more properly comparable to a process than to a title deed.

Moffit v. Garr, 1 Black, 273 [7 Am. & Eng. 11]; Reedy v. Scott, 23 Wall. 352; Meyer v. Pritchard, Bk. 23 L. ed. 961 [11 Am. & Eng. 35]; Peck v. Collins, 103 U. S. 660 [13 Am. & Eng. 134].

It is a fatal defect in a process when it was not signed by a duly authorized officer.

Dwight v. Merritt, 4 Fed. Rep. 614.

A writ issued under a law requiring such process to be signed and sealed, is void unless sealed.

Ætna Ins. Co. v. Hallock, 6 Wall. 556.

The omission of one or the other of the requisites was held fatal in Trigg v. Ross, 35 Mo. 165; Huggins v. Ketchum, 4 Dev. & B. L. 414; Boal v. King, 6 Ohio, 11; Porter v. Haskell, 11 Maine, 177; Hutchins v. Edson, 1 N. H. 139; Shackelford v. McRea, 3 Hawks, 226; Seawell v. Bank of Cape Fear, 2 Dev. 279; and Hernandez v. Drake, 81 Ill. 34.

A writ of error has been held void if it lacked the seal or the signature.

Overton v. Cheek, 22 How. 46; Ins. Co. v. Mordecai, 21 How. 195; Porter v. Foley, 21 How. 393; Moulder v. For-

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rest, Bk. 19 L. ed. 154; *Wells v. McGregor*, 13 Wall. 188; *Germain v. Mason*, Bk. 20 L. ed. 689.

In writs of error to State Courts the allowance by the proper authority must be had, or the Court does not obtain jurisdiction.

Twitchell v. Pa. 7 Wall. 321; *Gleason v. Florida*, 9 Wall. 779; *Bartemeyer v. Iowa*, 14 Wall. 26; *Packet Co. v. Ina. Co.* Bk. 20 L. ed. 463; *Palmer v. Donner*, 7 Wall. 541; *U. S. v. Hodge*, 3 How. 534; *Blitz v. Brown*, 7 Wall. 693.

An Act will not be construed to have a retrospective operation unless its language clearly requires such a construction.

Twenty Per Cent. Cases, 20 Wall. 179.

Mr. Justice FIELD delivered the opinion of the Court:

This is a suit in equity for the infringement of an alleged patent of the United States, which, it is averred, was obtained by the complainant Marsh and his assignee and co-complainant, Lefever, for a new and useful improvement in steam-engine valve-gear, with a prayer that the defendant corporation may be required to account for and pay over to the complainants the profits acquired by it and damages sustained by them by its unlawful acts, and be enjoined from further infringement. The bill sets forth that the alleged patent was obtained on the 28th day of December, 1880, and was in due form of law, under the seal of the Patent Office of the United States, signed by the Secretary of the Interior, countersigned by the Commissioner of Patents, and dated on that day and year. The answer of the defendant to these allegations is that it knows nothing of the issue of the patent, except as informed by the bill or by hearsay, and, therefore, neither admits nor denies them, but leaves the complainants to make such proofs thereof as they may deem advisable. A replication having been filed to the answer, proofs were taken, among which there was put in evidence an instrument in the form of a patent of the United States, purporting to be signed "A. Bell, Acting Secretary of the Interior," and countersigned

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and sealed as alleged in the bill. By stipulation of the parties certain facts were admitted with reference to this instrument, and allowed to be considered, "so far as relevant, competent, or material, on any motion or at any stage of the cause, including final hearing." The facts thus admitted were substantially these: That the instrument was received from the Patent Office by the complainants Marsh and Lefever (the parties named therein as patentees) on or about January 2, 1881, in all respects in the same condition as it now is, save that the words "A. Bell" were not thereon where they now appear; that the signature to it of E. M. Marble, Commissioner of Patents, and the seal of the Patent Office are genuine; that neither of the complainants nor their counsel knew of the omission of the signature of the Secretary of the Interior to the instrument, but supposed it was in all respects regular, their attention never having been called to the same until on or about February 12, 1882, long after the commencement of the present suit; that on or about February 17 following, it was sent by the solicitor of the complainants to the Patent Office at Washington, accompanied by a request of the complainants Marsh and Lefever to have the mistake corrected; and that on or about February 24 it was returned to the solicitor signed "A. Bell, Acting Secretary of the Interior," but without any other change.

A letter dated April 28, 1882, from E. M. Marble, who was the Commissioner of Patents when the instrument was issued, was also admitted in evidence. The letter set forth the various steps taken by Marsh and Lefever to obtain a patent for the invention claimed, and by the officers of the Patent Office in preparing, executing, and delivering it to them; and shows that every requirement of the law, and of the regulations of the Patent Office, was complied with when the instrument was issued, except the affixing to it of the signature of the Acting Secretary of the Interior, and that its omission, as established by the history and record of the case, was purely accidental, and probably was caused by

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the instrument being inadvertently laid aside or withdrawn from before the Acting Secretary while he was engaged in signing patents.

The Circuit Court held that the signature of the Secretary of the Interior was essential to render the instrument operative as a patent of the United States for the invention claimed; that until thus signed it was not only a defective instrument, but was entirely void; and therefore that the suit could not be maintained; and it dismissed the bill. Its decree was entered on the 16th of April, 1883, and from it the complainants, on the 26th of February, 1885, took an appeal to this Court. Subsequently, and on the 3d of February, 1887, Congress passed an Act for the relief of the patentees, reciting in its preamble the issue to them, on the 28th of December, 1880, of the letters patent mentioned in due form of procedure, except that by accident or mistake, they were not signed by the Secretary of the Interior, and that they were signed by the then Acting Secretary on February 24, 1882, and declaring as follows:

"That the letters patent named in the preamble of this Act are hereby, and by this Act, made legal, valid, complete, and operative, in law and equity, from the twenty-eighth day of December, eighteen hundred and eighty, to the same extent and for the same term that the same would have been legal, valid, complete, and operative, if the signature of the Secretary of the Interior had, at the time of the supposed issue of said letters patent on the day aforesaid, been placed thereon, and the omission of said signature thereon had not occurred; *Provided, however*, That the provision of this Act shall not be held or construed to apply to or affect any suits now pending, nor any cause of action arising prior to its passage." 24 Stat. at L. 378.

(a). In support of their appeal the appellants now contend in substance as follows:

1st. That the defendant could not impeach the patent for

(a). 128 U. S. begins opinion here inserting "after stating the case."

128 U. S. 607-609.

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the irregularity in its signing and issue, this not being apparent on its face, without pleading such defence and regularly putting the question in issue.

2d. That the patent being regular on its face, evidence to show that the signature was irregularly placed to it was incompetent.

3d. That the correction of the omission in the patent was within the power of the Acting Secretary of the Interior at the time; that when the omission was thus remedied the patent was operative from its original date, or, at least, from the date of the correction, February 24, 1882; and that the complainants were, even in this latter view, entitled to an accounting from that date.

4th. That if the patent did not become valid from its date on the subsequent signature by the Acting Secretary of the Interior, then the Act of Congress of February 3, 1887, cured all irregularities in the signing of the patent, made it valid from its date, and must govern the decision in this Court.

The first three positions may be considered together.

It is undoubtedly true, as a general rule, that a patent of the United States, whether for land or for an invention, can be attacked for defects, not apparent on its face, only by regular proceedings instituted for that purpose, and is not open to collateral attack, except where especially provided by statute. *Eureka C. W. Machine Co. v. Bailey W. & W. Machine Co.* 11 Wall. 488, 492 [8 Am. & Eng. 280]. But this rule applies only to those cases where the patent has been in fact executed, and the authority of the officers to issue the same was complete. In such cases the impeachment must be by pleadings setting up the specific acts which, it is alleged, vitiate and defeat the instrument. It is always open to show that an instrument produced in evidence, whether in an action at law or in a suit in equity in support of a claim or defence, was never executed by the person whose signature it bears, but that it is a simulated

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and forged document. And when the time of execution is material to the enforcement of the instrument, it is competent to show the date when the signature of the party was attached. Antedating cannot be used to cut off existing rights or defences of third parties, which would not be impaired or defeated if the true date was given. With respect to patents for land we have had frequent occasion to assert their inviolability against collateral attack, where the Land Department had jurisdiction, and the land formed part of the public domain, and the law provided for their sale. But we have also held that if the land patented was never the property of the United States, or had been previously sold, or reserved for sale, or the officers had no authority to execute the instrument, the fact could be shown in any action or proceeding whenever the patent is offered in evidence. *St. Louis Smelting & Ref. Co. v. Kemp*, 104 U. S. 636, 641; *Steel v. St. Louis Smelting & Ref. Co.* 106 U. S. 447, 452, 453; *Mahn v. Harwood*, 112 U. S. 354, 358 [15 Am. & Eng. 322]. And so also may the fact be shown, if the instrument itself was never signed by the officers whose names are attached to it, or when they were in office, or at the time stated. As was said in a case lately before this Court, antedating by an agent after his power has been revoked, so as to bind his principal, partakes of the nature of forgery, and is always open to inquiry, no matter who relies upon it. *Anthony v. Jasper Co.* 101 U. S. 693. The same doctrine applies when a patent is signed by an officer of the Patent Office, or Land Department, after he has gone out of office. His power to give effect to his acts as an officer of the Government is then at an end, and no efficacy can be imparted by antedating them, even though the act be the correction of a mere mistake or omission. The mistake or omission must stand in the condition he left it so far as he is concerned, with all its consequences. If corrected at all, it must be by officers in power at the time of the correction, who have succeeded to his authority.

This doctrine has special force in its application to a patent
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for an invention. A patent for land has, in the legislation of Congress, a twofold operation. It conveys the title where previously that remained in the United States; but where issued upon the recognition and confirmation of a claim to a previously existing title it is evidence of record of the existence of that title, or of equities respecting the land requiring recognition by a quitclaim from the Government. It always imports that the Government conveys, or has previously conveyed, interests in the lands, something which it at the time owns, or its predecessor once owned. And by the proceedings previous to its issue there is created in the claimant an equitable right to the conveyance of the legal title, or his right to such title is so established that he can enforce it against others who, with notice of his claims, may have obtained the patent. *Langdeau v. Hanes*, 21 Wall. 521, 529. But the patent for an invention conveys nothing which the Government owns or its predecessors ever owned. The invention is the product of the inventor's brain, and if made known would be subject to the use of any one, if that use were not secured to him. Such security is afforded by the Act of Congress when his priority of invention is established before the officers of the Patent Office, and the patent is issued. The patent is the evidence of his exclusive right to the use of the invention; it therefore may be said to create a property interest in that invention. Until the patent is issued there is no property right in it, that is, no such right as the inventor can enforce. Until then there is no power over its use, which is one of the elements of a right of property in anything capable of ownership. In *Gayler v. Wilder*, 10 How. 477, 493 [5 Am. & Eng. 188], this subject was to some extent considered, when the Court, by Chief Justice TANEY, said: "The inventor of a new and useful improvement certainly has no exclusive right to it until he obtains a patent. This right is created by the patent, and no suit can be maintained by the inventor against any one for using it before the patent is issued." And again: "The monopoly

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did not exist at common law, and the rights, therefore, which may be exercised under it cannot be regulated by the rules of the common law. It is created by the Act of Congress, and no rights can be acquired in it unless authorized by statute, and in the manner the statute prescribes."

Section 4883 of the Revised Statutes prescribes the manner in which patents for inventions shall be attested. It declares that "All patents shall be issued in the name of the United States of America, under the seal of the Patent Office, and shall be signed by the Secretary of the Interior and countersigned by the Commissioner of Patents, and they shall be recorded, together with the specifications, in the Patent Office, in books to be kept for that purpose." The signatures of all the officers here named must be attached to the instrument, or it will be an uncompleted document, and therefore ineffectual to confer "the exclusive right to make, use, and vend the invention or discovery throughout the United States and the Territories thereof." The omission of one signature is no more permissible than the omission of all. On this point we have a pertinent adjudication in *McGarrahan v. New Idria Mining Company*, 96 U. S. 316. There the question arose as to the validity of an instrument as a patent for land of the United States, which had not been countersigned by the Recorder of the General Land Office. The law then in force respecting patents for land issued by the General Land Office provided that they should be issued in the name of the United States under the seal of said office, and be signed by the President of the United States, or by a secretary appointed by him for that purpose, and countersigned by the Recorder of the General Land Office, and be recorded in said office in books to be kept for that purpose; and the Court held that the fact the instrument was not countersigned by the Recorder of the General Land Office was fatal to its validity, and that the instrument did not become operative as a patent until it was attested by all the parties named in the statute. Until then the United States had not executed a patent for

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a grant of lands. In deciding the case the Court, by Mr. Chief Justice WAITE, said: "Each and every one of the integral parts of the execution is essential to the perfection of the patent. They are of equal importance under the law, and one cannot be dispensed with more than another. Neither is directory, but all are mandatory. The question is not what, in the absence of statutory regulations, would constitute a valid grant, but what the statute requires. Not what other statutes may prescribe, but what this does. Neither the signing nor the sealing, nor the countersigning can be omitted, any more than the signing or the sealing or the acknowledgment by a grantor, or the attestation by witnesses, when, by statute, such forms are prescribed for the due execution of deeds by private parties for the conveyance of lands. It has never been doubted that in such cases the omission of any of the statutory requirements invalidates the deed. The legal title to lands cannot be conveyed except in the form provided by law."

This decision is as applicable to a patent for an invention as it is to a patent for lands, and in accordance with it the instrument issued to the complainants Marsh and Lefever for the invention they claim was not, at the time it was issued, by reason of the absence of the signature of the Secretary of the Interior, operative to create any right in them. But though the instrument was thus inoperative, they were not barred from afterwards obtaining a correction of it so as to render it effective as a patent, to which they had become entitled. Where mistakes are committed by officers of the Land Department in issuing evidence of a claimant's rights, not amounting to errors of judgment in the exercise of judicial discretion, but which are the result of accident or inadvertence, they may be remedied upon proper application to the Department. We have an instance of such action in the case of *Bell v. Hearne*, 19 How. 252. It there appeared that a patent for land was issued to one James Bell, whilst the records of the office showed that one John Bell was the ap-

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plicant, and the party entitled to it. Some years after it was received by James Bell, he returned it to the General Land Office, and upon an examination of the records of the Department, and being satisfied therefrom of the original mistake in the designation of the first name of the party entitled to the patent, the Commissioner of the General Land Office canceled the original patent and issued a new one to John Bell; and the question before the Court was as to the power of the Commissioner to receive the original patent and to issue a new one, upon which question the Court said: "The Commissioner of the General Land Office exercises a general superintendence over the subordinate officers of his department, and is clothed with liberal powers of control, to be exercised for the purposes of justice, and to prevent the consequences of inadvertence, irregularity, mistake, and fraud in the important and extensive operations of that officer for the disposal of the public domain. The power exercised in this case is a power to correct a clerical mistake, the existence of which is shown plainly by the record, and is a necessary power in the administration of every department."

It is true the omission of the signature of the Acting Secretary of the Interior to the instrument issued to the complainants Marsh and Lefever was not a mere clerical error, but an omission of a signature essential to the creation of the instrument as a patent, being in that respect like the omission of a grantor's name to a deed. A clerical error, as its designation imports, is an error of a clerk or a subordinate officer in transcribing or entering an official proceeding ordered by another. But we have, no doubt, that the power of the department to prevent the consequences of inadvertences and mistakes in its officers extends so far as to remedy an omission like the one under consideration. The manner of affording the remedy is the only question in such cases. Clearly, it must be by the action of existing officers of the department, not by former officers, who have gone out of office. Mr. Schurz, who was Secretary of the Interior

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when the instrument in question was issued, could not have supplied the omission by signing the document when it was returned to the department for that purpose in February, 1882, for he was then no longer in office. Mr. Kirkwood had succeeded him as Secretary, and was then in office. He could undoubtedly have taken up the application of the complainants Marsh and Lefever, and having found upon examination that they were entitled, by proceedings and proofs already had in the department, to the patent, have signed the instrument and delivered it to them in a perfect form. This official duty, however, appears to have been performed by Mr. Bell, who was Acting Secretary under him, as he had been under Secretary Schurz. The omission in the instrument as originally issued was thus supplied. The Revised Statutes (§ 177) provide that in the case of the death, resignation, absence, or sickness of the head of any department, the first or sole assistant thereof shall, except in certain cases referred to (not material here), perform the duties of such head until a successor is appointed or such absence or sickness shall cease. The signing of the instrument by Mr. Bell as Acting Secretary implies that one of the conditions on which he was authorized to act in that capacity had arisen. With his signature added the instrument was complete. No other signature was required, the same person who signed it as Commissioner of Patents still continuing in office. The only embarrassment from completing the instrument in this way arises from its date. The signature, which completed its execution, was attached February 24, 1882, whilst its date is December 28, 1880, more than thirteen months before. The statute declares that "every patent shall bear date as of a day not later than six months from the time at which it was passed and allowed, and notice thereof was sent to the applicant or his agent." R. S. § 4885. This provision was intended to prescribe the date on which the patent would begin to run; but should any question arise in the future as to the duration of this patent, the time at which its execu-

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tion was completed by the signature of the Acting Secretary may be proved. It would have been well if the date of the signing had been added to his signature, or in some way indicated on the instrument itself, so that it might have gone upon the records of the Patent Office; as from that time only could the instrument operate as a patent for the invention claimed, unless greater efficacy was imparted to it by the Act of Congress, which we shall presently consider.

The position that an accounting for profits earned subsequently could be claimed in this suit is not tenable. An accounting for such profits after suit can be demanded only where the infringement complained of took place previously and continued afterwards.

As to the Act of Congress passed February 3, 1887, for the relief of the appellants, only a few words need be said. It may be conceded that the defect arising from the omission of the Secretary's signature to the instrument is cured as to the future by that Act, but it contains a proviso which excepts its provisions from applying to or affecting any suits then pending, or any cause of action arising prior to its passage. It is evident that Congress did not intend to give to the Act any retroactive effect, and to prevent such a construction inserted the proviso, thus limiting the extent of its operation. *Wayman v. Southard*, 10 Wheat, 1, 30. As thus limited, the Act, as well observed by counsel, is in harmony with the law relating to reissues, allowing the inventor upon the surrender of his patent with a defective specification to have a new patent for the remainder of his term.

For the reasons expressed it follows that the decree below must be affirmed; and the cross appeal, being from rulings in the exclusion of evidence offered with respect to the alleged infringement, must be dismissed; and it is so ordered.

128 U. S. 616.

Notes:

5. Act 1836, § 5; Act 1870, § 21; **R. S., sec. 4883.**

Act 1790, § 1; Act 1793, § 1; Act 1836, § 5; Act 1837,

Notes and citations.

§ 6; Act March 2, 1861, § 16; Act 1870, § 22; **R. S.,
sec. 4884.**

8. Act 1836, § 8; Act March 3, 1863, § 3; Act 1870, § 23; **R. S.,
§ 4885.**

**Signature of Assistant Secretary of the Interior to letters patent,
Act April 19, 1888.**

Patent in suit:

No. 236,052, E. A. Marsh, December 28, 1880. **Steam
Engine Valve Gear.**

OTHER SUITS ON SAME PATENT:

**Marsh v. Nichols, 1883. 15 Fed. Rep. 914; 24 O. G., 901.
Marsh v. Nichols, Shepard & Co., 1891; 56 O. G., 259.**

Cited:

IN SUPREME COURT IN:

Dable Grain Shovel Co. v. Flint, 1890. 137 U. S., 41.

Notes and citations.

IN CIRCUIT COURTS IN :

Rein v. Clayton, January, 1889. 37 Fed. Rep., 354.

IN TEXT BOOKS :

Walker on Patents, 2d ed., 1889. pp. 114, 133, 521.

Robinson on Patents, 1890. §§ 967, 1015, 1032, 1152.

[illegible]

Syllabus.

JOHN P. KENNEDY, APPELLANT, v. MILTON W. HAZELTON.*

128 U. S. 667-673. October Term, 1888.

[Bk. 32, L. ed., 576; 46 O. G. 973.]

Affirming *Ibid.*; 33 Fed. Rep. 298.

Submitted December 3, 1888. Decided December 17, 1888.

Specific performance. Void patent not assignable. Demurrer.
Patent prima facie evidence. Validity of patent.

1. A Court of Chancery cannot decree specific performance of an agreement to convey property which has no existence, or to which defendant has no title. (p. 123.)
2. A bill by vendee against vender for specific performance, which does not show any title in defendant, is bad on demurrer. (p. 123.)
3. The patent law makes it essential to the validity of a patent that it shall be granted on the application, supported by the oath, of the original and first inventor. (p. 124.)
4. A patent which is not supported by the oath of the inventor, but applied for by one who is not the inventor, is unauthorized by law, and void; and whether taken out in the name of the applicant or of any assignee of his, confers no rights as against the public. (p. 124.)
5. A patent issued to an applicant is only *prima facie* evidence that he is the inventor. (p. 124.)
6. Where plaintiff brought a bill in equity to enforce the specific performance of an agreement to assign a patent, with intent to evade which agreement defendant had procured the patent (No. 349,039, Goulding, September 14, 1886, Steam Boiler), which was his own invention, to be obtained on the application under oath of a third party, and assigned to him, the defendant; *held*, that as a patent thus obtained conferred no title or right upon the patentee, or his assignee, the defendant, a Court of Equity would not order the latter to assign it to the plaintiff, and also because its only possible

* See Explanation of Notes, page III.

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value or use to the plaintiff would be to enable him to impose upon the public by asserting rights under a void patent. (p. 124.)

7. *Held*, that a bill for an account of profits could not be maintained against defendant for the use of the patent, as there can be neither legal nor equitable ownership of a void patent. (p. 124).

[Cited in the opinion of the court:]

Columbine v. Chichester, 2 Phill. 27. p. 123.

Columbine v. Chichester, 1 Co-op. *temp.* Cottenham 295. p. 123.

Ferguson v. Wilson, L. R. 2 Ch. 77. p. 123.

Kempshall v. Stone, 5 Johns. Ch. 193. p. 123.

Moras v. Elmendorf, 11 Paige, 277. p. 124.

Milkman v. Ordway, 106 Mass. 232, 256. p. 124.

Post v. Marsh, L. R. 16 Ch. Div. 395. p. 124.

Oldham v. James, 14 Irish Ch. 81. p. 124.

Ambler v. Whipple, 20 Wall. 546 [9 Am. & Eng. 410.] p. 125.

Appeal from a decree of the Circuit Court of the United States for the Northern District of Illinois, dismissing, on demurrer, a suit for specific performance of a contract to assign patents thereafter obtained.

Reported below, 33 Fed. Rep. 293.

Statement by Mr. Justice GRAY:

This was a bill in equity for specific performance, filed November 12, 1887, by a citizen of New York against a citizen of Illinois, and contained the following allegations:

On July 10, 1884, the defendant, in consideration of the sum of \$10,000, paid by the plaintiff to him, made an assignment to the plaintiff of an interest of one-half in two patents previously obtained by the defendant for steam boilers; and also made a written contract, acknowledged before a notary public and recorded in the Patent Office, by which the defendant agreed to assign to the plaintiff any and all patents which the defendant might thereafter obtain from the United States or the Dominion of Canada, for inventions in improvements in steam boilers, and further agreed not to assign such

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inventions, or the patents obtained therefor, to any other person.

In 1885 the defendant publicly stated that he had invented such an improvement, and explained its general plan and construction; and afterwards combined and confederated with one Goulding to avoid and evade the effect of the contract of July 10, 1884; and for that purpose the defendant caused to be prepared at his expense, but in the name of Goulding, the necessary papers to procure letters patent for this invention; and Goulding, without any consideration received from the defendant therefor, assented to be used in that regard as the alleged inventor of the improvement, and, at the request and by the procurement of the defendant, filed an application under oath for a patent for it, which application was allowed; and Goulding, before the issue of the patent, assigned in writing to the defendant all his interest in the improvement and in the patent therefor; and on September 14, 1886, a patent was issued to the defendant accordingly as assignee of Goulding, a certified copy of which was made part of the bill.

The bill further alleged that the defendant was, and Goulding was not, the original and first inventor of the improvement so patented; that the defendant had engaged in the manufacture and sale of boilers under this patent, and had received and was receiving great benefits therefrom; that the patent was of value exceeding the sum of \$5,000, exclusive of interest and costs.

The bill prayed for a decree that the defendant assign this patent to the plaintiff, for an adjudication that the title to it equitably vested in the plaintiff at the date of its issue, for an account of profits received by the defendant from its use, for a preliminary injunction against transferring or incumbering the patent, or manufacturing or selling boilers containing the improvement described therein, and for further relief.

The defendant demurred to the bill: (1), for want of equity;

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(2), for multifariousness, in embracing two separate and distinct causes of action, one to enforce specific performance of a contract, the other for the infringement of a patent; (3), because, as appeared by the allegations of the bill, the patent was absolutely void, and no suit could be maintained, either to compel its transfer, or for infringement thereof.

The Circuit Court sustained the demurrer, for the third reason, and dismissed the bill. 33 Fed. Rep. 293. The plaintiff appealed to this Court.

Messrs. BANNING & BANNING and CLARENCE A. SEWARD, for appellant:

The decree is appealable.

Gould v. Evansville & C. R. Co. 91 U. S. 526.

The Court of Equity has power to enforce either a verbal or written contract to assign letters patent for an improvement subsequently to be made.

Aspinwall Mfg. Co. v. Gill, 40 Pat. Off. Gaz. 1133; Somerby v. Buntin, 118 Mass. 279; Burr v. De La Vergne, 102 N. Y. 416, 3 Cent. Rep. 423; Corbin v. Tracy, 34 Conn. 325; Binney v. Annan, 107 Mass. 94; Satterthwait v. Marshall, 4 Del. Ch. 337; Runstetler v. Atkinson, McAr. & M. (D. C.) 382; Nesmith v. Calvert, 1 Wood. & M. 34; Phila. W. & B. R. Co. v. Trimble, 10 Wall. 367 [8 Am. & Eng. 261]; Littlefield v. Perry, 21 Wall. 226 [9 Am. & Eng. 446]; Burke v. Partridge, 58 N. H. 349.

The bill embraces two separate and distinct causes of action, one to enforce the specific performance of a contract, the other for infringement of the patent.

Oliver v. Piatt, 3 How. 411; Pom. Eq. Jur. § 369.

Assignment of improvements to be made in future conveys an equitable interest entitling the assignee to call upon the holder of the legal interest for an assignment thereof.

Littlefield v. Perry, *supra*.

A State Court may determine what the contract is and in whom the title to the patent is vested, but it has no right to

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say that a party shall be enjoined from using a patent or in any way to pass upon any question arising as to its infringement.

Continental Store Service Co. v. Clark, 100 N. Y. 368, 1 Cent. Rep. 530; Hat Sweat Mfg. Co. v. Reinoehl, 102 N. Y. 167, 3 Cent. Rep. 54.

The general rule is that the plaintiff is entitled to any relief agreeable to the case made by the bill.

English v. Foxall, 2 Pet. 612.

The bill alleges that Hazelton was the inventor. The demurrer admits this fact.

Pullman's Palace Car Co. v. Mo. Pac. R. Co. 115 U. S. 596.

Letters patent which on their face are valid cannot be attacked in any collateral action.

Mahn v. Harwood, 112 U. S. 365 [15 Am. & Eng. 322]; Celluloid Mfg. Co. v. Goodyear Co. 13 Blatch. 385; Mowry v. Whitney, 14 Wall. 441 [8 Am. & Eng. 506].

Ambler v. Whipple, 20 Wall. 546 [10 Am. & Eng. 128] is an authority for the plaintiff. See also authorities cited by Mr. Justice FIELD in Sharon v. Terry, 36 Fed. Rep. 349, 352; Peirsoll v. Elliott, 6 Pet. 98.

Messrs. L. L. BOND and E. A. WEST, for appellee:

The applicant is required to make oath that he is the inventor, and the patent is *prima facie* evidence that he was the inventor.

Phila. & T. R. Co. v. Stimpson, 14 Pet. 448 [4 Am. & Eng. 324]; Roemer v. Simon, 95 U. S. 214 [11 Am. & Eng. 348].

The grant of a patent gives the patentee the *prima facie* right, and the burden of proof is on the party disputing it.

Allen v. Hunter, 6 McLean, 303; Blanchard v. Putman, 3 Fish. Pat. Cas. 186; Crouch v. Speer, 1 Ban. & Ard. 145.

A patent is void if the invention patented was not originally discovered by the patentee.

Evans v. Eaton, 3 Wheat. 454 [4 Am. & Eng. 16].

A party can take nothing by a void patent.

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Evans v. Eaton, 7 Wheat. 356 [4 Am. & Eng. 105]; Watson v. Bladen, 4 Wash. 580; Mini v. Adams, 3 Wall. Jr. 20; Whiteley v. Swayne, 4 Fish. Pat. Cas. 117.

One who has obtained the whole idea of an invention from another cannot obtain a valid patent upon it for himself.

Atlantic Works v. Brady, 107 U. S. 192 [14 Am. & Eng. 380].

(a.) Mr. Justice GRAY delivered the opinion of the Court:

The case, as stated in the bill and admitted by the demurrer, is shortly this: the defendant agreed in writing to assign to the plaintiff any patents that he might obtain for improvements in steam boilers. He did invent such an improvement, and, with intent to evade his agreement and to defraud the plaintiff, procured a patent for this invention to be obtained upon the application under oath of a third person as the inventor, and to be issued to him as assignee of that person, and has made profits by manufacturing and selling boilers embodying the improvements so patented. The plaintiff seeks by bill in equity to compel the defendant to assign the patent to him, and to account for the profits received under it.

A Court of Chancery cannot decree specific performance of an agreement to convey property which has no existence, or to which the defendant has no title. A bill by vendee against vendor for specific performance, which does not show any title in the defendant, is bad on demurrer. And if it appears, by the bill or otherwise, that the want of title (even if caused by the defendant's own act, as by his conveyance to a *bona fide* purchaser) was known to the plaintiff at the time of beginning the suit, the bill will not be retained for assessment of damages, but must be dismissed, and the plaintiff left to his remedy at law. *Columbine v. Chichester*, 2 Phill. 27; *S. C.* 1 Coop. temp. Cottenham, 295; *Ferguson v. Wilson*, L. R. 2 Ch. 77; *Kempshall v. Stone*, 5 Johns. Ch.

(a.) 128 U. S. inserts "after stating the case as above reported."

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193; *Morss v. Elmendorf*, 11 Paige, 277; *Milkman v. Ordway*, 106 Mass. 232, 256.

The patent law makes it essential to the validity of a patent, that it shall be granted on the application, supported by the oath, of the original and first inventor (or of his executor or administrator), whether the patent is issued to him or to his assignee. A patent which is not supported by the oath of the inventor, but applied for by one who is not the inventor, is unauthorized by law, and void, and whether taken out in the name of the applicant or of any assignee of his, confers no rights as against the public. R. S. §§ 4886, 4888, 4892, 4895, 4896, 4920.

The patent issued by the Commissioner to the defendant as assignee of Goulding is only *prima facie* evidence that Goulding was the inventor of the improvement patented; and the presumption of its validity in this respect is rebutted and overthrown by the distinct allegation in the bill, admitted by the demurrer, that the defendant, and not Goulding, was the inventor. This fact is not brought into the case by any answer or plea of the defendant, but it is asserted by the plaintiff himself as a ground for maintaining his bill.

As the patent upon the plaintiff's own showing, conferred no title or right upon the defendant, a Court of Equity will not order him to assign it to the plaintiff—not only because that would be to decree a conveyance of property in which the defendant has, and can confer, no title; but also because its only possible value or use to the plaintiff would be to enable him to impose upon the public by asserting rights under a void patent. *Post v. Marsh*, L. R. 16 Ch. Div. 395; *Oldham v. James*, 14 Irish Ch. 81.

The bill cannot be maintained for an account of profits received by the defendant from the use of this patent, because a decree for profits can only proceed upon the ground that the plaintiff is at least the equitable owner of the patent, and there can be neither legal nor equitable ownership of a void patent. The same reason is a sufficient answer to the

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suggestion of the plaintiff that the bill may be maintained as a bill to remove a cloud upon his title in this patent.

In *Ambler v. Whipple*, 20 Wall. 546 [10 Am. & Eng. 128], cited by the plaintiff, the suit was based upon articles of partnership between Ambler and Whipple, by which it was agreed that all patents obtained by either partner should be owned by both in equal shares. The bill alleged that the two jointly had obtained a patent for a joint invention, and that another patent, afterwards obtained by Whipple upon the application of a third person, embodied the same invention with only a colorable variation. Neither of the patents was in the record, and the questions now presented were not suggested by counsel or considered by the Court, but the decree for the plaintiff proceeded upon independent grounds.

The result is that the present bill cannot be maintained, and that the plaintiff must be left to any remedy that he may have to recover damages in an action at law.

Decree affirmed.

The CHIEF JUSTICE and Mr. Justice BRADLEY dissented.

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Notes :**5. Letters patent are *prima facie* evidence of inventorship :**

Railroad v. Stimpson, 14 Pet. 448 [4 Am. & Eng. 324].

Agawam Co. v. Jordan, 7 Wall. 583 [8 Am. & Eng. 24].

Blanchard v. Putnam, 8 Wall. 420 [8 Am. & Eng. 107].

Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290].

Mitchell v. Tilghman, 19 Wall. 287 [9 Am. & Eng. 174].

Smith v. Goodyear D. V. Co., 93 U. S. 486 [11 Am. & Eng. 1].

Roemer v. Simon, 95 U. S. 214 [11 Am. & Eng. 348].

Bates v. Coe, 98 U. S. 31 [12 Am. & Eng. 150].

Notes and citations.

7. Invalidity of patent no bar to an account—when :
Kinsman v. Parkhurst, 18 How. 289.
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Patent in suit :

No. 349,039. H. C. Goulding. September 14, 1886.
Steam-boiler.

OTHER SUITS ON SAME PATENT :

Kennedy v. Hazelton, 1888. 33 Fed. Rep. 292.

Cited :**IN TEXT BOOKS :**

Walker on Patents, 2d ed., 1889. p. 218.
Robinson on Patents, 1890. §§ 769, 1138.

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Statement of the case.

CYRUS H. McCORMICK ET AL, EXECUTORS OF
CYRUS H. McCORMICK, DECEASED, ET AL, APPEL-
LANTS, v. PETER WHITMER, ADMINISTRATOR
OF HUGH GRAHAM, DECEASED.* †

129 U. S. 1-19. October Term, 1888.

[Bk. 32, L. ed. 593; 46 O. G. 443.]

Reversing *Graham v. McCormick*, 10 Biss. 39; 5 Ban. &
Ard. 244; 11 Fed. Rep. 859; 21 O. G. 1533.

Argued December 4, 5, 6, 1888. Decided January 7, 1889.

1. Letters patent, No. 74,342, granted Alvaro B. Graham, February 11, 1868, for an Improvement in Harvesters, construed, and claims 1 and 2; *held*, in view of the state of the art and of the special limitations put upon them on the requirement of the Patent Office, to be limited to the special construction and arrangement set forth in the claims, and are not infringed as limited by defendant's machines, constructed under letters patent, No. 193,770, McCormick, Baker and Erpelding, July 31, 1877, Harvester. (p. 189.)

Appeal from a decree of the Circuit Court of the United States for the Northern District of Illinois, in favor of plaintiff, for damages in an action for the infringement of letters patent, No. 74,342, granted to Alvaro B. Graham February 11, 1868, for an improvement in harvesters.

The bill recites the invention by Alvaro B. Graham, the issue of the patent, its assignment to the complainant August 12, 1870, charges infringement of the first and second claims, and prays for an injunction and account of profits and damages.

The defendants, by their answer and proofs, insisted upon the following defences:

1st. That the complainant was not the inventor of the alleged improvement or any material part thereof;

* See Explanation of Notes, page III.

† The docket title of this case is *McCormick v. Whitmer, Administrator of Graham*.

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2d. That the defendants had not infringed the patent or employed the alleged improvement claimed therein ;

3d. That the features of their machine, by reason of which they were charged with infringement, were found in many prior patents, recited in the answer, and introduced in evidence ;

4th. That the patent was invalid for want of novelty, and that the alleged invention was set forth and described in various prior patents recited in the answer ;

5th. That the patent was invalid by reason of the alleged invention having been in public use and on sale for more than two years before application therefor, with the knowledge and consent of the patentee ;

6th. That the patent was invalid by reason of the alleged invention having been shown and described in a prior patent obtained by the same patentee, under date of July 23, 1867 ; and by reason of the fact that the application for the patent in suit was in fraud of the rights of the assignees under the first patent ;

7th. That the patentee, having, prior to the application for the patent of July 23, 1867, assigned that the application and the invention to which it related, and the exclusive right to the machine exhibited therein (having at the time a claim in that application for the subject matter here in controversy), could not lawfully by subsequent independent application, obtain separate exclusive title to the part of the machine thus assigned, or convey such title to this complainant ;

8th. That if the subsequent patent (the one in suit) were not altogether invalid, in so far as it related to the machine exhibited and described in the first, the assignees of the first patent had such interest or equities in the second as made them necessary parties ;

9th. That complainant had not such title under the patent sued upon as to enable him to maintain this suit ; and

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10th. That the defendants held a license under the Graham patent of July 23, 1867.

The answer also denied that the complainant had been in the enjoyment of the rights and interest purporting to be secured by the patent; that the same was of value; that he was entitled to damages occasioned by the alleged infringement, or entitled to sue for and receive the same to his own use.

The Court overruled the several defences, and entered a decree for complainant under these two claims, referring the case to a master for an account of profits and damages.

After such reference complainant entered on the record a waiver of profits and confined his claim to damages on the basis of a royalty or license fee.

The master reported that the defendants had made and sold 27,200 machines containing the patented improvements covered by the 1st and 2d claims of the patent sued on, and that complainant was entitled to recover, on the basis of an established royalty or license fee, at the rate of \$3 per machine, making \$81,600. He computed interest on this sum at the rate of 6 per cent. per annum, from March 13, 1880—the date of the opinion of the Circuit Court—and reported a total sum of \$102,324.80 as due the complainant.

Both parties excepted to this report—the complainant, among other things, on the ground that the master should have reported 32,882 machines, instead of 27,200, and should have computed interest from the end of each year's infringement; and the defendants, among other things, on the ground that no established royalty should have been found and no interest allowed. These exceptions were argued before Judge GRESHAM April 14, 15, 1885, who, on April 27, 1885, overruled all the exceptions except those by the defendants relating to interest. He held, however, that interest should be computed on the amount of damages reported by the master, \$81,600, from the date of the master's report, and entered a final decree for \$85,353.60

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From this decree the defendants appealed, and filed their appeal in this Court October 12, 1885.

The first suit in which this patent was the subject of litigation was begun in 1874 against Gammon & Deering, and is reported in 7 Biss. 490, and 3 Ban. & Arl. 7. The next suit, begun June 8, 1877, against Cyrus H. McCormick and others is now before this Court. The opinion, of Judges DRUMMOND and DYER, announced March 13, 1880, is given in 5 Ban. & Arl. 244. The next suit, begun December 6, 1878, against the Geneva Lake Crawford Manufacturing Company, is reported in 11 Fed. Rep. 138. The next suit was begun October 16, 1883, against the Plano Manufacturing Company, and is reported in 33 Fed. Rep. 917.

In these cases the Graham patent was sustained and infringement of the 1st and 2d claims found.

Complainant's patent was applied for February 11, 1867, and issued February 11, 1868. The defendants are not charged with having used the machine therein shown, but with having used on a different machine a mode of attaching and tilting the finger beam which complainant insists infringes the first two claims. These claims are given in the opinion.

The drawings and specifications of the patents are as follows:

ALVARO B. GRAHAM, OF WAUKEGAN, ILLINOIS.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent, No. **74,342**, dated February 11, 1868.

To all whom it may concern :

Be it known that I, **ALVARO B. GRAHAM**, of Waukegan, in the county of Lake and State of Illinois, have invented

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certain new and useful Improvements in Harvesters for Reaping and Mowing; and I do hereby declare that the following is a full, clear, and exact description of my invention.

The objects of the improvements which constitute the invention set forth in this patent are to obtain a greater capacity of movement in a floating finger-beam, while retaining its connection with a gearing-carriage that is drawn forward by a stiff tongue, to facilitate the raising and lowering of the finger-beam, to improve the operation of the cutting apparatus, and to transmit motion from the gearing-carriage to a reel connected with a finger-beam that rises and falls independently of the gearing-carriage.

To these ends the first of my improvements consists of the combination of the finger-beam with the gearing-carriage by means of a vibratable link (extending crosswise to the line of draft), a draft-rod (extending parallel with the line of draft), and two swivel-joints (the one for the vibratable link and the other for the draft-rod), so that the finger-beam can rise and fall at either end and rock forward or backward independently of the gearing-carriage while maintaining its connection with it.

My next improvement consists of the combination of the finger-beam, gearing-carriage, vibratable link, draft-rod, and swivel-joints with an arm connected with the finger-beam, to enable it to be rocked for the purpose of setting its guard-fingers at any desirable inclination to a horizontal line.

My next improvement consists of the combination of the gearing-carriage, rocking finger-beam, and reciprocating cutter with a crank-shaft on the gearing-carriage for driving the cutter, a connecting-rod extending between the crank-wrist of the said crank-shaft and the cutter, and a swivel-joint at the cutter for the connecting-rod, so that the connection between the crank-wrist (on the gearing-carriage) and the cutter (on the finger-beam) does not obstruct the rocking of the finger-beam.

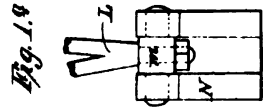
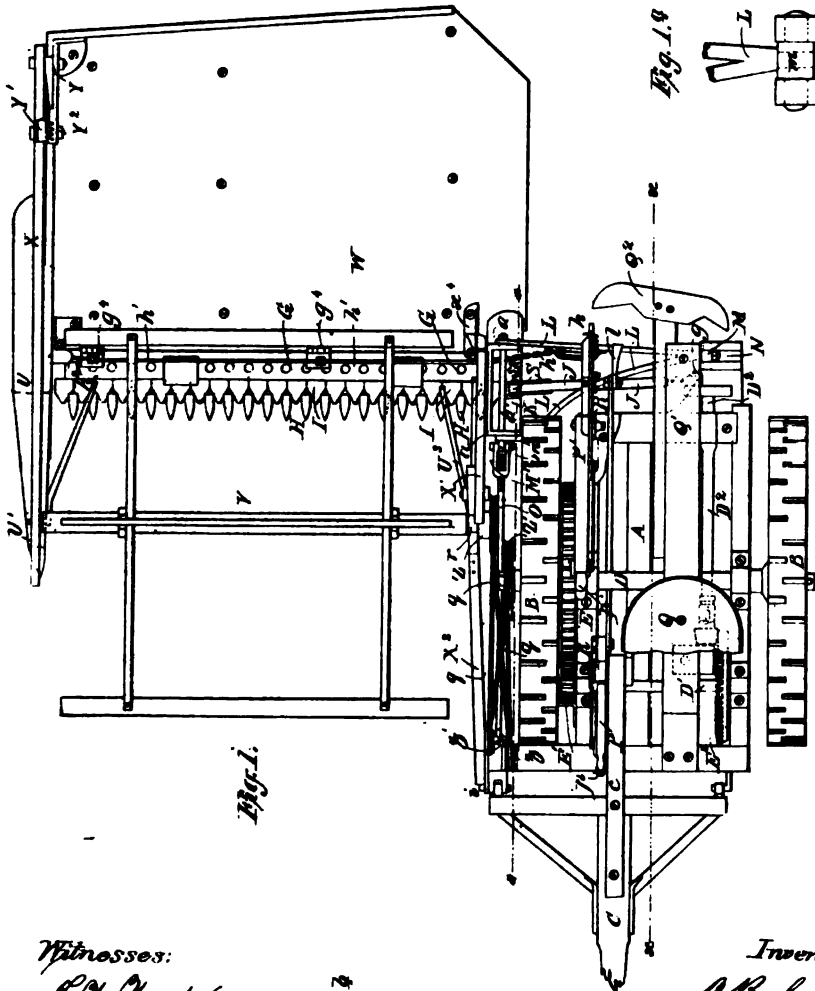
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A. B. GRAHAM.

HARVESTER.

No. 74,342.

Patented Feb. 11, 1868.



Witnesses:

J. A. Austin
W. J. Cunningham

Fig. 1. 6



Inventor:

A. B. Graham
by his Attorney
E. S. Renwick



A. B. GRAHAM.
HARVESTER.

No. 74,342.

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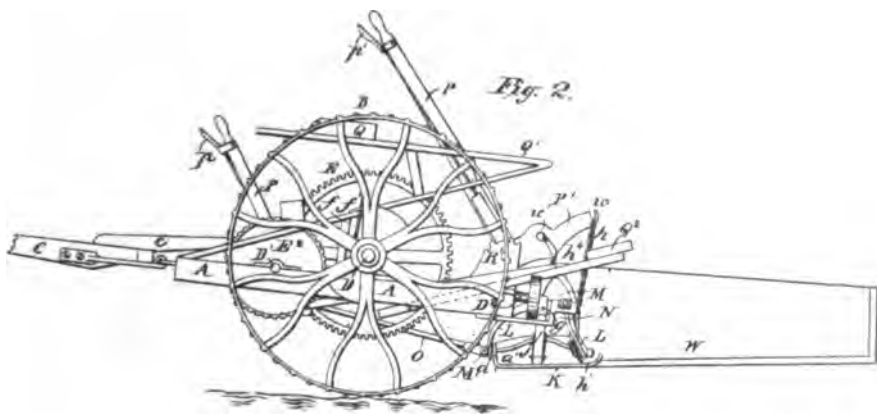


Fig. 2.

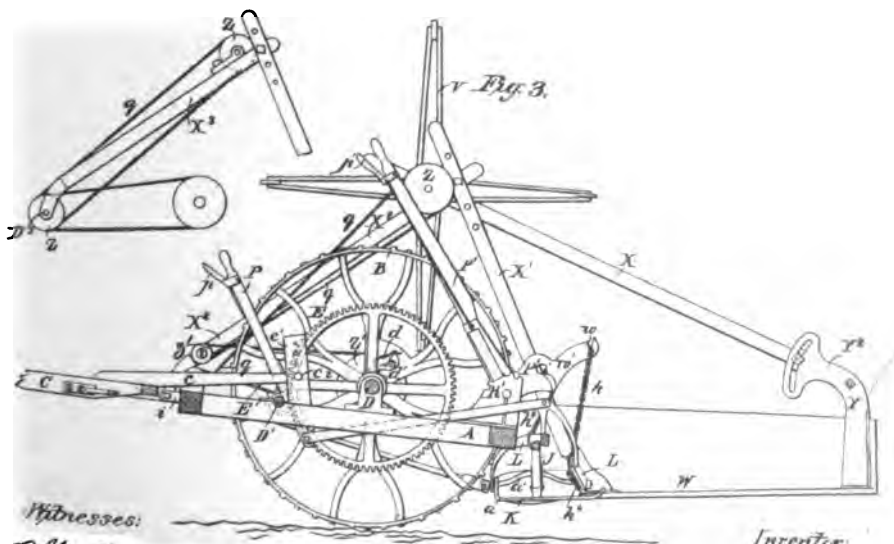


Fig. 3.

Witnesses:
B. H. Thurston
W. J. Cunningham

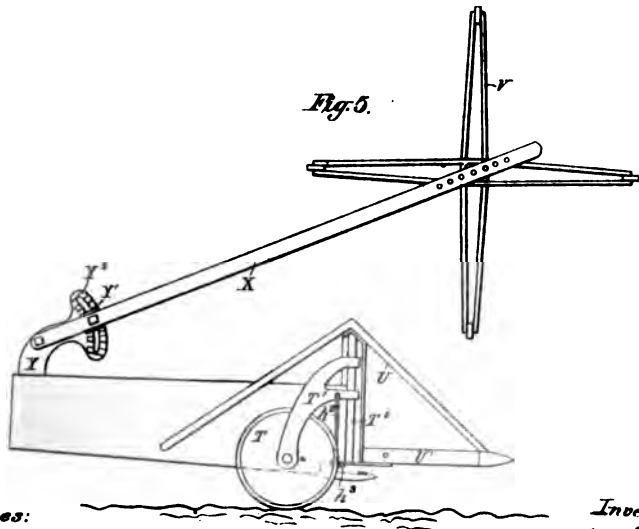
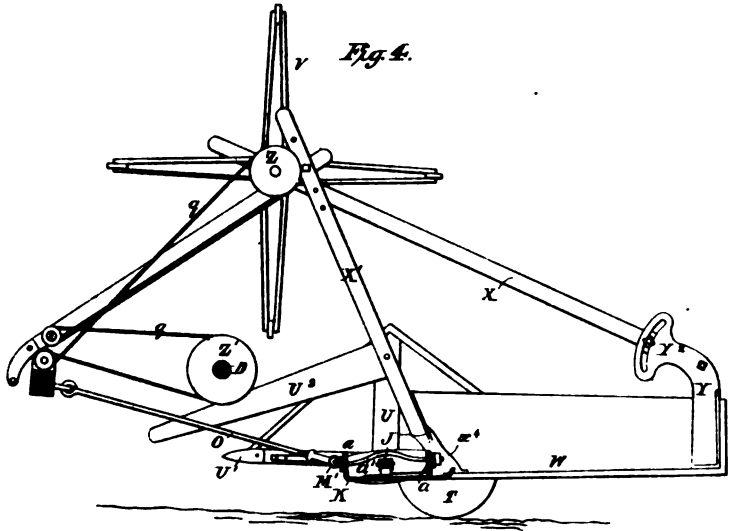
Inventor:
A. B. Graham
by his attorney
S. S. Lemick



A. B. GRAHAM.
HARVESTER.

No. 74,342.

Patented Feb. 11, 1868.



Witnesses:

F. W. Hurster
R. J. Birmingham

Inventa:

Attest
A.B. Graham
by his Attorney
E.L. Penwick

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the reel-shaft with the gearing-carriage, a guiding-belt pulley arranged upon the gearing-carriage, and a second guiding-belt pulley arranged upon the radius-bar. In this combination one of the said two guide-pulleys directs the driving member of the belt into its proper line while the other guide-pulley directs the slack member of the belt into its proper line, so that the belt does not tend to cast itself off the driving-pulley or the reel-pulley.

The object of the next improvement is to insure the free rocking of the finger-beam (for the purpose of raising or depressing the points of the guard-fingers) when the machine is used for reaping grain, and consists of the combination of the finger-beam with the gearing-carriage by a swivel-joint and with the raking-platform by hinge-connections, so that the finger-beam may be rocked relatively to both the gearing-carriage and the raking-platform with which it is connected.

The object of the next improvement is to maintain the raking-platform at its proper inclination or level, notwithstanding the rocking of the finger-beam with which it is connected; and it consists of the combination of the raking-platform of the machine with the finger-beam by hinge-connections and with the gearing-carriage by an upright stay and a bar or link connecting the gearing-carriage and the upper end of said stay. The upright stay forming a part of this combination is, by preference, the inner reel-post, and the bar or link is, by preference, the radius-bar, that also connects the reel with the gearing-carriage, so that the said reel-post and radius-bar are enabled to perform duplex functions.

The object of my next improvement is to insure the free rocking of the finger-beam relatively to the raking-platform, notwithstanding the support of the outer ends of the finger-beam and platform by a grain-wheel; and it consists of the combination of the finger-beam with the grain-wheel through the intervention of a hinge-connection, which is, by preference, one of the same hinge-connections which combines the raking-

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platform with the finger-beam, and the grain-wheel is, by preference, a caster-wheel.

The object of my next improvement is to enable the clutch-connection between the crank of the cutter and the driving-wheel to be operated with facility, and consists of the combination of the movable member of the clutch with a clutch-lever composed of two parts, which are a lever proper, and a yoke that engages in a groove in the said movable member.

My improvements may be embodied in a machine having the finger-beam arranged in advance of the axial line of the shaft or arbor of the driving-wheel, or arranged in the rear of that axial line. In the former case the vibratable link that connects the finger-beam with the gearing-carriage will be arranged in advance of the driving-wheel, and in the latter case in the rear of the driving-wheel. In the former case, also, the rod hereinbefore called a "draft-rod" (because the strain to which it is subjected is a pulling strain) becomes a pushing or thrust rod and connects the inner end of the finger-beam with the rear of the gearing-carriage. In the former case the radius-bar for the reel and raking-platform connects with the rear end of the gearing-carriage and in the latter case with its front end.

I prefer to construct a harvesting-machine with the finger-beam in the rear of the line of the axle of the driving-wheel, and as a description of such a machine, perfected by my improvements, will enable them to be fully understood, all of my improvements are embodied in the harvesting-machine of that description, which is represented in the accompanying drawings, and which is an illustration of the best mode which I have thus far devised of embodying them in a working-machine.

Fig. 1 represents a plan of the machine. Fig. 2 represents an elevation of the stubble side thereof. Fig. 3 represents a vertical transverse section thereof at the line *x x* of Fig. 1. Fig. 4 represents a similar section thereof at the line * * of Fig. 1. Fig. 5 represents an elevation of the grain side

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of the machine. Fig. 6 represents a front view of certain parts of the machine designated by the same letters as are applied to the same parts in the other figures. Fig. 7 represents a plan of a part of the finger-beam with the divider used in mowing and the platform and grain-divider disconnected; and Figs. 8, 9, and 10 represent a plan and side view and cross section of the guard-fingers drawn upon a larger scale than the preceding figures, and Figs. 11 and 12 represent views of the clutch-lever of the crank-shaft, also drawn upon a larger scale.

This machine is what is commonly called a "combined" machine, and is adapted to reaping and mowing. When used for the former purpose, it is arranged as represented in Figs. 1 to 6. When used for the latter purpose, certain of its parts are removed, as hereinafter stated, and a grass-divider is substituted for the grain-divider at the outer end of the finger-beam.

The gearing which imparts motion to the sickle and reel of the machine is mounted upon a carriage, A, which is supported by two running or ground wheels, B B, and is provided with a tongue, C, to which the horses are hitched. The tongue is jointed to the gearing-carriage, and has an arm, c, which projects backward over said carriage to a standard, c', mounted thereon. The standard and arm are both pierced with holes through which a bolt, c², is passed, by which the tongue is made fast, so that the tongue is then a stiff tongue; but the inclination of the tongue to the carriage may be varied by shifting the said bolt from one hole to another in the standard c', so as to vary the position of the rear end of the carriage with which the cutting apparatus is connected.

The running-wheels B B by their revolution impart motion to the cutter and reel of the machine. To this end they are fitted to turn upon a shaft, D, with which each is connected by a spring-pawl, d, and a ratchet-wheel d' (the latter secured to the shaft and the former to the

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running-wheel), so that the running-wheel that turns fastest acts as the driver. This shaft is fitted with a cog-wheel, E, whose teeth engage with those of a pinion, E', secured to a counter-shaft, D', and this counter-shaft is fitted with a beveled wheel, E², whose teeth engage with those of a beveled pinion, E³, (represented in dotted lines in Fig. 1), that is mounted upon the crank-shaft D², with which the cutter is connected. The hub of the pinion E³, is fitted to turn upon the crank-shaft D², and is connected with it by means of a saw-toothed clutch, one member, e, of which is arranged to slide longitudinally upon the crank-shaft, but compelled to turn therewith by means of a pin or feather, while the other member of the clutch is formed upon the hub of the pinion E³. The sliding clutch member e is controlled by a lever, f, which is composed (see Figs. 11 and 12) of two parts, the lever proper and a yoke, f³, which enters a groove in the sliding clutch member e, and is pivoted to the frame of the machine with its upper end passing through a slotted plate, f', fitted with two notches, in one or other of which the lever may be engaged for the purpose of holding the clutch in gear or out of gear. In the former case the crank-shaft D² and the cutter are caused to operate as the running-wheels turn. In the latter case the crank-shaft and cutter, being disconnected from the running-wheels, remain at rest. The requisite lateral play of the lever to permit its engagement and disengagement is obtained by constructing it to fit loosely upon its pivot, and a spring, f², is coiled upon the pivot to hold the lever engaged in either notch of the slotted plate f'. The two parts of the clutch-lever are notched and fit loosely into one another; hence the yoke can play upon the lever proper to accommodate itself to the varying positions of the lever proper and sliding clutch member.

The finger-beam G of the machine projects at one side of the rear end of the gearing-carriage A, and is fitted with guard-fingers H, through the slots of which a scalloped cutter, I, is arranged to reciprocate endwise. The end of this cutter

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that is nearest the gearing-carriage is connected with the crank-wrist *g* of the crank-shaft D^2 by means of a connecting-rod, *J*. The finger-beam is connected with the rear end of the gearing-carriage in the following manner: The end of the beam nearest the carriage is provided with a shoe, *K*, from which lugs *a a* project upward. These lugs are perforated to admit a joint-bolt, *a'*, which connects the shoe with one end of a vibratable forked link, *L*, whose other end is connected by a swivel-joint, *M*, with a bracket, *N*, secured to the rear of the gearing-carriage. This swivel-joint is formed by a cross-head, *m*, Fig. 1^a, the center of which is bored transversely to permit a journal formed on the end of the forked link *L* to turn in it. The ends of the cross-head *m* are formed into journals which turn in bearings upon the bracket *N*; hence, the finger-beam can both rise and fall freely at either end, and rock forward and backward without twisting the link that forms its connection with the gearing-carriage. Moreover, the axis of the cross-head *m* of the swivel-joint is arranged in line, or thereabout, with the axis of the crank-shaft D^2 , that imparts motion to the cutter, so that such rising or falling or rocking does not materially change the distance between the crank-shaft and the cutter. The shoe *K* of the finger-beam is connected also with the front end of the gearing-carriage by a draft-rod, *O*, and the connection between the rear end of this draft-rod and the said shoe is a swivel-joint, *M'*, of which the joint-pin *a'* of the vibratable-link *L* is the longitudinal axis and its T-head *m'* the horizontal axis. The swivel-joint, therefore, while maintaining a firm connection with the draft-rod, gives free play for both the longitudinal and rocking movements of the finger-beam; hence when the machine is used for cutting grass the said finger-beam may be left free, not only to rise and fall at either end, but also to rock or to be rocked forward and backward, so that the points of its guard-fingers incline toward or from a horizontal plane.

In order that the finger-beam may be rocked by the con-

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ductor of the machine, the vibratable link *L* is fitted with an arm, *l*, whose upper end is connected by a rod with the lower end of a lever, *P*, that is pivoted to the gearing-carriage near its forward end. The upper end of this lever *P* extends within the reach of the driver, who sits upon the driver's seat *Q*, so that he may rock the finger-beam by moving the said lever to and fro. This rocking-lever *P* is fitted with a spring-bolt whose end can engage in any one of a number of notches formed in a segment, *R*, which is attached to the gearing-carriage concentrically with the pivot of the rocking lever, so that the finger-beam may be fastened in the desired position by the engagement of the spring-bolt in the appropriate notch. The rocking lever is fitted with a lever-handle, *p*, and rod connecting with the spring-bolt, by which the spring-bolt may be withdrawn from the notched segment and held disengaged therefrom during the movement of the lever. In order that the connection between the cutter on the finger-beam and the crank-shaft on the gearing-carriage may not obstruct the free rocking of the finger-beam, the connecting-rod *J* is connected with the cutter *I* by means of a swivel-joint, *S*, consisting (see Fig. 1^b) of a head, *s*, that is pivoted to the cutter-stock, (by a shank that extends lengthwise therewith and turns in an ear, *s'*, secured to the end of the cutter-stock), and of a cross-pivot, *s*², that passes through the said head and through two ears formed upon the connecting-rod *J*.

The outer end of the finger-beam is sustained by a grain-wheel, *T*, which is pivoted to an arm, *T'*, that projects from and is constructed to turn upon an upright arbor, *T*², so that the said grain-wheel operates as a caster-wheel. This arbor *T*² is secured to the frame-work *U* of the divider *U'*.

In order that the finger-beam may be raised and lowered while the machine is in operation, the arbor *T*² of the caster-wheel is constructed to slide up and down in the hubs of the caster-arm *T'*, and the said arm is connected with the shorter arm of a bent hand-lever, *P'*, that is pivoted upon the gearing-

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carriage by a flexible connection consisting of a chain, h , rod h' , and a cord h^2 , the first of which passes around a sheave mounted upon the vibratable link L , and the last of which passes around a sheave, h^3 , secured in the divider frame-work U , so that the forward movement of the bent hand-lever or lifting-lever P' pulls the divider end of the finger-beam upward, and causes it to approach the hub of the caster-wheel arm T' , thereby compelling it to rise from the ground.

In order that the inner end of the finger-beam may be correspondingly raised, the vibratable link L is provided with a chain, h^4 , which is applied to the same lifting-lever P' as the chain leading from the outer end of the platform, and as this second chain is attached to the link near its middle, so that the finger-beam is raised twice as much as the part of the link at which the attachment is made, the chain is applied to the middle of the bent arm of the lifting-lever.

In order that the chains may be adjusted so as to vary the position of the finger-beam from any required mean distance from the ground, they are not made fast to the lifting-lever, but are caught in V-formed notches $w w'$, from which they can readily be removed and be as readily replaced. The lifting-lever is provided with a spring-bolt, which is arranged to engage in any one of a series of notches formed in a segment-plate, R' , so as to secure the lifting-lever, and consequently the finger-beam G , with which it is connected, in any desired position. A lever-handle, p' , also is applied to the lifting-lever to control the spring-bolt.

The guard-fingers H have a peculiar form, the upper faces of their lower members being made concave, as represented at n , Fig. 10. This construction permits the cutter or sickle to bear on the rims of the fingers, the edges of which are kept sharp by the constant attrition, so that the cutting-edges of the fingers are made self-sharpening. The lower members of the fingers are also constructed with spurs $n' n'$ at their sides, made in one piece with them, the spurs being long enough to prevent the grain or grass from passing back-

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ward along the side of the finger into the notches of the scallops of the cutter ; but not so long as to meet and form a continuous bearing, which would involve the necessity of fitting their adjacent ends accurately to each other. This mode of preventing the backward passage of the material being cut is an improvement upon that in which the effect is produced by riveting a long bar to the under members of the fingers, as it involves less expense in construction.

The raking-platform W of the machine (when grain is to be harvested) is attached to the finger-beam G. The reel V is supported by this platform, so as to move with the finger-beam when it is raised or lowered. The gudgeon of the outer end of the reel is received in one of a series of holes formed in a reel-bearer, X, which projects forward from a short reel-post, Y, secured to the platform at its outer rear corner. The reel-bearer is pivoted at its rear end to the head of this reel-post, and is provided with a toothed plate, Y', which engages in the spaces between the teeth of a segment, Y², secured to the reel-post. The segment has a curved slot in it through which a bolt is passed, which also passes through the reel-bearer so as to hold the toothed plate and bearer to the segment. The inclination of the reel-bearer may be varied, for the purpose of raising or lowering the outer end of the reel, by slacking the nut of the bolt and engaging the toothed plate with others of the spaces between the teeth of the segment Y². The shaft of the reel is supported at its inner end by a reel-post, X', erected upon the inner forward corner of the platform. The reel-shaft is fitted with a belt-pulley, Z, to which a round belt, q, is applied to cause it to revolve. This belt is put in motion by being applied to a second belt-pulley, Z', that is secured to the shaft D of the running or ground wheels B B.

In order that the tautness of the belt may not be materially affected by the change in the position of the reel, due to its movement with the finger-beam and platform relatively to the gearing-carriage, the bearing *r* of the inner end of the

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reel-shaft, although supported by the inner reel-post, X' , is connected with the forward end of the gearing-carriage by a radius-bar, X^2 , so as to maintain its distance therefrom, although its rise and fall, and the belt q , instead of being conducted directly from the pulley Z' on the driving-shaft D to the reel-pulley Z , is conducted forward and backward to and from two supplementary belt-pulleys, z z' , that are located at or near the pivot i , that connects the radius-bar X^2 with the gearing-carriage, one pulley, z , being pivoted to the gearing-carriage and the other, z' , to the radius-bar. As these pulleys are for all practical purposes substantially at the center of movement of the reel in rising and falling with the radius-bar, such movement does not materially affect the belt q , and the latter retains its tautness, while the rising and descent of the reel is not affected by the transmission of power to it. On the other hand, the pulley z , located upon the gearing-carriage, maintains always the same relation to the driving-pulley Z' , and therefore guides the driving member of the belt properly to that pulley, notwithstanding the change of position of the reel caused by the unequal rising or descent of its two ends, while the other pulley, z' , being located on the radius-bar X^2 , maintains the same relation to the reel-pulley Z . However, the reel and the said pulley may vary its position relatively to the gearing-carriage, and therefore guides the slack member of the belt properly to the reel-pulley, notwithstanding its change of position; hence the pulleys z z' are guide-pulleys to guide the belt properly, and thereby prevent it from being cast off by the movement of the reel with the finger-beam in passing over uneven ground.

Another and equivalent arrangement of the belt and pulleys for maintaining the tautness of the belt (but not for preventing the casting of it off the pulleys) is represented at Fig. 8^a. In this case the radius-bar X^3 is pivoted upon a counter-shaft, D^3 , which is carried by the gearing-carriage, and is fitted with a pulley, z , from which the belt q proceeds

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to the pulley Z on the reel-shaft. The counter-shaft D³ on the gearing-carriage may be caused to revolve by a belt encircling pulleys secured to the shaft of the running-wheels and this counter-shaft, or in any other convenient manner.

The inner end of the reel may be set more or less forward of the finger-beam by shifting its bearing *r* forward or backward on the radius-bar, and the radius-bar X² is pierced with a series of holes, to which the bolt that holds the bearing *r* of the reel-shaft may be transferred when that bearing is shifted forward or backward. The inner end of the reel may be raised or lowered by turning the radius-bar X² up or down on its pivot *i*, and the reel-post X' is pierced with a series of holes, to one of which the bolt that holds the radius-bar to it may be transferred when that radius-bar is turned to a different position.

In order that the finger-beam may be rocked to depress or raise the points of the guard-fingers when the machine is used for reaping grain, the raking-platform W is not attached rigidly to the finger-beam, but is attached to it by hinges *g*⁴ *g*⁴, Fig. 1, so that the finger-beam may be rocked while the platform retains its position, and the platform is retained in its proper position by being connected with the gearing-carriage by the inner reel-post, X', and radius-bar X² which thus act as stay and link to hold the platform, in addition to supporting the reel, and in order that the inner reel-post may so operate its lower end is firmly connected with the raking-platform W by a metal shoe, *x*⁴. The rocking of the finger-beam independently of the raking-platform W is insured by the connection of the caster or grain wheel T with the said platform, so that the said wheel is combined with the finger-beam through the intervention of the hinge or hinges *g*⁴, which combine the platform with the finger-beam; hence the rocking of the finger-beam is not prevented by its combination with a raking-platform or a grain-wheel, but is under the control of the driver, who effects it by means of the rocking lever P, as may be found expedient, to cut the

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grain at a greater or less distance from the ground or to raise up lodged grain. Moreover, as the weight of the outer half of the platform is sustained by the grain-wheel, instead of by the finger-beam, the latter is relieved from much strain, and is not so apt to vibrate or spring as it otherwise would be.

When the machine is to be used for cutting grass, the reel V, radius-bar X², and platform W, with the reel-supports, divider-frame, and caster-wheel T, are removed from the finger-beam G, and a small grass-divider, with a track-clearer, is bolted to the outer end of the finger-beam in the place of the outermost finger, as represented at U², Fig. 7. The rocking of the finger-beam is then under the control of the driver, who effects it by means of the rocking lever P, as may be found expedient to conform to the surface over which the cutter is passing. When used for reaping grain, the grain-divider U', Figs. 1, 4, and 5, which projects laterally beyond the end of the finger-beam, gathers in a mass of standing grain wider than the breadth of the cutting apparatus, and the grain at the stubble side is correspondingly gathered in by a grain-guard, U³, that is supported by the inner reel-post X', and consequently moves up and down with the platform and cutting apparatus. When the machine is used for cutting grass, the grass-divider U², being at the end of the finger-beam, gathers in no more grass than the cutting apparatus can advantageously cut, and the swarth is narrower than when cutting grain. When the machine is used for reaping, the driver sits upon the seat, Q, and the raker upon the end of the spring-frame, Q', with his feet resting on a removable foot-board, Q², which is detached from the machine when the machine is used for mowing.

Having thus described a machine embodying all my improvements, I declare that I do not limit my new combinations to the particular forms represented in the drawings, but intend to vary the form and construction of the members of the combinations, or to use equivalent members in their places, as circumstances may render expedient.

Statement of the case.

What I claim as my invention, and desire to secure by letters patent, is:

1st. The combination, as set forth, in a harvester, of the finger-beam with the gearing-carriage by means of the vibratable link, the draft-rod, and the two swivel-joints M and M', so that the finger-beam may both rise and fall at either end and rock forward and backward.

2d. The combination, as set forth, in a harvester, of the finger-beam, gearing-carriage, vibratable link, draft-rod, swivel-joints, and arm by which the rocking of the finger-beam is controlled.

3d. The combination, as set forth, in a harvester, of the gearing-carriage, rocking finger-beam, vibratable link, reciprocating cutter, crank-shaft on the gearing-frame, connecting-rod, (connecting said crank-shaft with the cutter on the rocking finger-beam), and swivel-joint at the cutter.

4th. The combination, in a harvester, of the gearing-carriage, finger-beam, vibratable link, grain-wheel, and lifting-connection for the grain end of the finger-beam, substantially as set forth.

5th. The combination, as set forth, in a harvester, of the gearing-carriage, finger-beam, vibratable link, grain-wheel, lifting-connection, and lifting-connections for the inner or stubble end of the finger-beam, so that each end of the finger-beam may be raised or lowered relatively to the gearing-carriage.

6th. The combination of the reel arranged to move with the finger-beam, the gearing-carriage, radius-bar, and two guide belt-pulleys for the driving and slack members of the reel-belt, one of said guide-pulleys being arranged upon the gearing-carriage and the other upon the radius-bar, substantially as set forth.

7th. The combination, as set forth, of the finger-beam, gearing-carriage, swivel-joint M, between the finger-beam and gearing-carriage, raking-platform, and hinge-connections between the finger-beam and raking-platform.

Statement of the case.

8th. The combination of the raking-platform, finger-beam, hinge-connections, gearing-carriage, upright stay, and link, substantially as set forth.

9th. The combination, as set forth, of the finger-beam, with the grain-wheel and platform, through the intervention of a hinge-connection.

10th. The combination of the movable member of the clutch (for throwing the cutter-crank out of or into gear) with a clutch-lever composed of two parts connected by notches, substantially as set forth.

In witness whereof, I have hereto set my hand this 28th day of January, A. D. 1867.

ALVARO B. GRAHAM.

Witnesses:

D. N. BARKER,
GEO. W. DIVER.

LEANDER J. McCORMICK, WILLIAM R. BAKER,
AND LAMBERT ERPELDING, OF CHICAGO, ILLI-
NOIS, ASSIGNORS TO C. H. AND L. J. McCORMICK,
OF SAME PLACE.

IMPROVEMENT IN HARVESTERS.

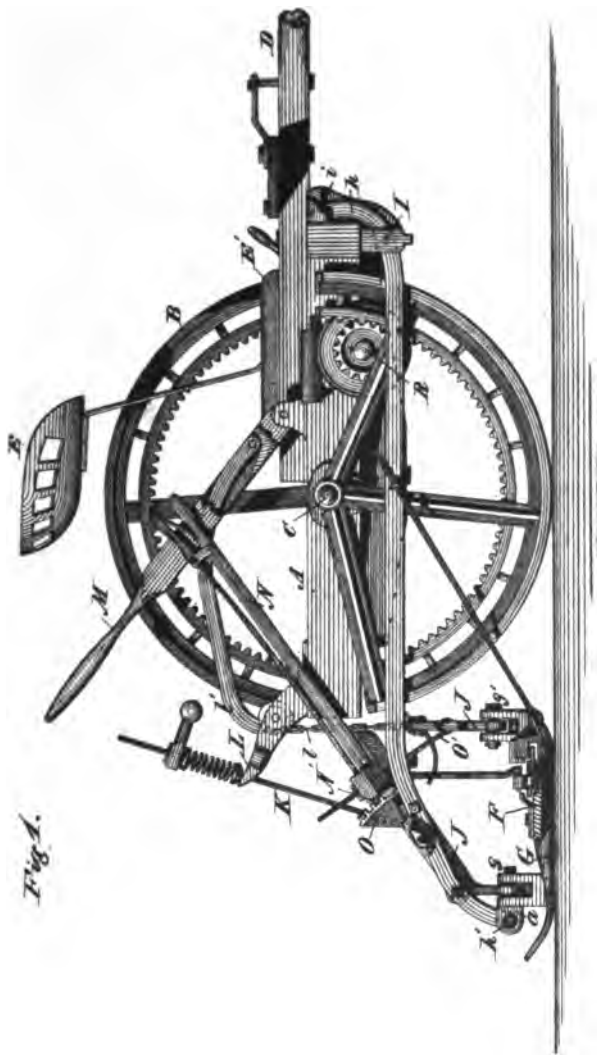
Specifications forming part of Letters Patent, No. **193,770**,
dated July 31, 1877; application filed July 17, 1875.

To all whom it may concern:

Be it known that we, LEANDER J. McCORMICK, WILLIAM R. BAKER, and LAMBERT ERPELDING, all of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Harvesters, of which the following is a specification:

The subject-matter claimed will hereinafter specifically be designated.

4 Sheets—Sheet 1.
L. J. McCORMICK, W R. BAKER & L. ERPELDING.
HARVESTERS.
 No. 193,770. Patented July 31, 1877.



WITNESSES
Harry King
Wm. J. Rogers

By

L. J. McCormick, W. R. Baker & L. Erpelding

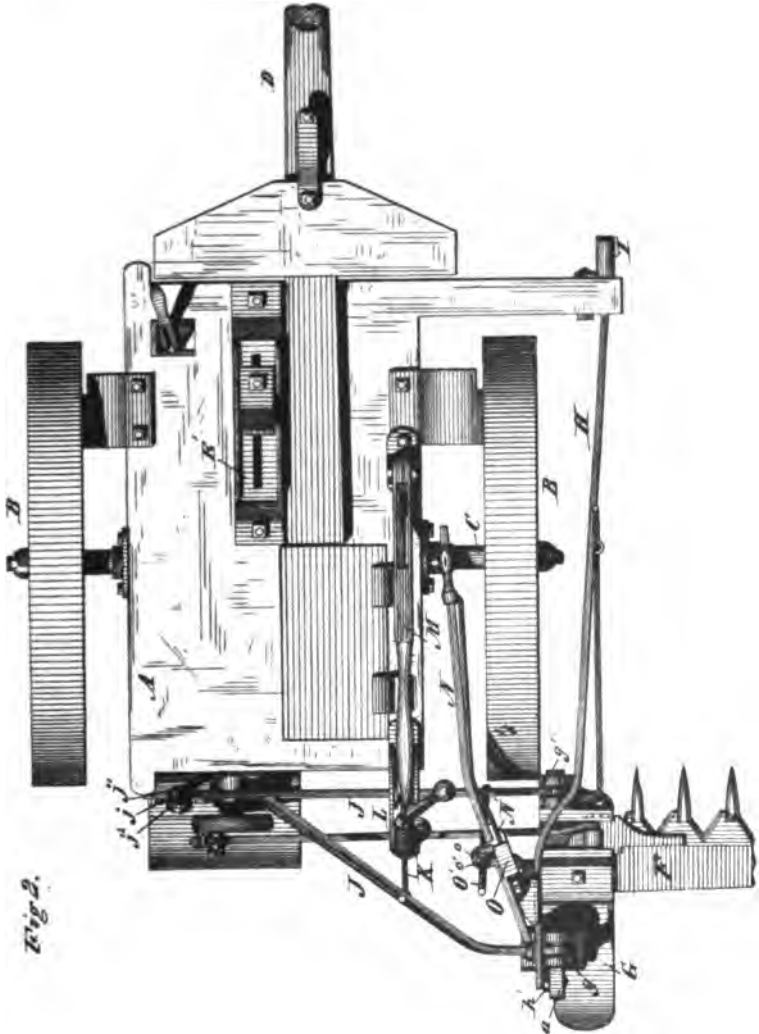
Wm. G. Chalmers *Attorney*

4 Sheets—Sheet 2.

L. J. McCORMICK, W R. BAKER & L. ERPELDING.
HARVESTERS.

No. 193,770.

Patented July 31, 1877.



WITNESSES

Harry King
Wm J. Payson

INVENTOR
L. J. McCormick, Wm R. Baker & L. Erpelding
By their Attorneys
Wm D. B. L. L. L.

4 Sheets—Sheet 3.
L. J. McCORMICK, W. R. BAKER & L. ERPELDING.
HARVESTERS.

No. 193,770.

Patented July 31, 1877.

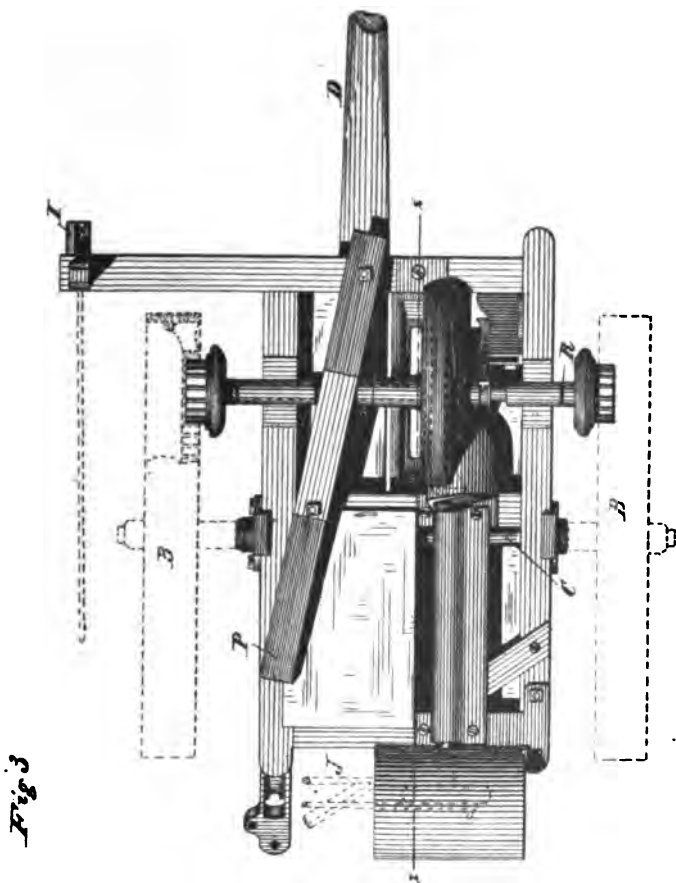


Fig. 3

WITNESSES

Larry King
Wm. J. Dwyer

L. J. McCormick, W. R. Baker & L. Erpelding
 INVENTOR
 By *Thos. Attorney*

Wm. B. Baldwin

Statement of the case.

terminates in a laterally-projecting pin, *h'*, which enters a socket in a swiveling eyebolt, *a*, on the rear end of the shoe, and forms the pivot on which the shoe, and consequently the finger-beam, rocks.

The shoe *G*, is also provided in front and rear with lugs *g g'*, to which are respectively pin-jointed the front and rear members of a forked coupling-arm, *J*, the swiveling eyebolt *a* forming the pivot of the rear member. The end of this coupling-arm is bent or curved, like a "goose-neck," to pass over the crank-shaft, and terminates in a ball *j*, working in a socket, *j*¹, in the crank-box casting, the socket being covered by a cap, *j*², thus forming a ball-and-socket joint, which allows the finger-beam to rise and fall, and to rock freely without cramping.

The pressure of the cutting apparatus upon the ground is regulated by means of a link, *K*, hooked at one end to the rear fork or member of the coupling arm, and passing through an overhanging bracket, *L*, mounted on the inner rear corner of the main frame, the link above the bracket being surrounded by a spring, the tension of which may be regulated by a screw-nut working on the link.

The cutting apparatus is raised and lowered by a chain, *l*, hooked to the front fork of the coupling-arm, passing over a pulley journaled in the overhanging bracket *L*, and connected by an arched link, *l'*, with a slotted lifting-lever, *M*, pivoted on the main frame within convenient reach of the driver. It is obvious the range of lift of the cutting apparatus by this lever can be varied by attaching the link *l'* to the lever nearer to or farther from its fulcrum, and that, owing to its construction and manner of connection with the link, the link acts as a stop to limit the backward motion of the lever by abutting against the top of the slot in which it is pivoted. The cutting apparatus may be rocked on its swiveling pivot-joint, and held in any desired position to adapt it to rough as well as smooth land, by means of a rocking lever, *N*, pivoted to the drag-bar and extending to within convenient

Statement of the case.

reach of the driver, the lever being provided with a spring-detent, N', taking into a curved rack, O, also mounted upon the drag-bar, a lifting-link O', hooked to the front member of the forked coupling-arm, passing loosely through an opening in the extended portion of a bracket, o, mounted on the rocking lever, through which the detent works, to engage the curved rack, the lifting-link above this bracket being provided with an adjustable screw-nut, o', whereby it will be seen that when the cutting apparatus is adjusted, the screw-nut will prevent its descent beyond its adjusted point, until the detent is withdrawn from the rack, while allowing it to rise to pass over obstructions.

Instead of this lifting-link O', a chain might be used, and by the employment of a rigid strap the cutting apparatus, when adjusted by means of the rack, would be held in a fixed position.

We have found that the weight of the cutting apparatus on the inner rear corner of the main frame has the effect of springing and twisting the frame, by which the boxes are tightened and the machine made heavy to move. This tendency is overcome by a diagonal brace, P, extending the entire length of the frame, its front end being bolted to the under side of the frame, preferably by the same bolt that passes through the tongue and front cross-piece, another bolt passing through the brace and center cross-piece close to the main axle, a bolt at the rear end not being essential.

On the inner surfaces of the drive-wheels are cast spur-wheels, which mesh with and drive corresponding pinions mounted on a center-shaft, R, turning in bearings on the frame in front of the main axle. This center-shaft carries a beveled-gear wheel, which drives a corresponding pinion on the crank-shaft S, the crank-shaft being supported in suitable bearings and driving the cutters by a crank and pitman, as usual.

Suitable plates or casings surround the crank-shaft and bevel-gear wheels to protect them.

Statement of the case.

We have described our improvements as organized for operation as a two-wheel hinged-bar mowing-machine, but they are also adapted for the reception of parts necessary to constitute a hand-raking or self-raking reaper.

We claim as our invention :

1st. The combination, substantially as hereinbefore set forth of the slotted and grooved down-hanger, and the hooked front end of the drag-bar pivoted therein, and guided and braced thereby.

2d. The combination, substantially as hereinbefore set forth, of the shoe and the drag-bar, extending over and in rear of the shoe, and its swivel-pin connecting it with the rear end of the shoe, whereby the drag-bar sustains the thrust of the shoe while leaving it free to rock on its hinges.

3d. The combination, substantially as hereinbefore set forth, of the shoe, the drag-bar extending over and in rear of the shoe, the swivel-pin connecting the two, and the forked coupling-arm, the front member of which is pivoted to the front of the shoe, while its rear member is pivoted to the swivel-pin of the drag-bar, whereby great flexibility of movement and a firm bracing of the shoe is secured.

4th. The combination, substantially as hereinbefore set forth, of the lateral brace or coupling-arm attached to the front of the shoe, the drag-bar hinged to the rear of the shoe, and the lifting-lever pivoted upon the drag-bar and linked to the lateral brace to tip the cutters.

5th. The combination, substantially as hereinbefore set forth, of the shoe, the forked coupling-arm, the drag-bar extending over and in rear of the shoe, the swivel-pin connecting the two, the rocking lever and detent mounted on the drag-bar, and the adjustable link connection between the lever and the coupling-arm, whereby the shoe readily may be rocked or adjusted.

6th. The combination, substantially as hereinbefore set forth, of the shoe, the drag-bar extending over and in rear of the shoe, the swivel-pin connecting the two, the forked coupling-

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arm, the overhanging bracket on the frame, and the adjustable spring-tension link connecting the bracket and the rear member of the forked coupling-arm, whereby the pressure of the shoe upon the ground may be regulated.

7th. The combination, substantially as hereinbefore set forth, of the shoe, the drag-bar, the forked coupling-arm, the overhanging bracket on the frame, the adjustable spring-tension link connecting the bracket and the rear member of the forked coupling-arm, and the chain, link, and lifting-lever acting on the front member of the coupling-arm, whereby the shoe is first rocked and then lifted by one continuous movement of the lever.

8th. The combination, substantially as set forth, of the coupling-arm, the chain attached thereto, the link attached to the chain, and the pivoted slotted lever in which the link is pivoted, whereby the link acts as a stop to the backward movement of the lever while allowing it to move forward freely to lift the coupling-arm.

In testimony whereof we have hereunto subscribed our names.

LEANDER J. MCCORMICK.

WM. R. BAKER.

LAMBERT ERPELDING.

Witnesses:

R. NEWTON,

D. MCINTYRE.

The other facts of the case are stated in the opinion.

Messrs. ROBERT H. PARKINSON and JOSEPH G. PARKINSON,
for appellants:

In *Graham v. Gammon*, 7 Biss. 490, the case in which this Graham patent was first sustained, and which has been accepted as establishing its validity, it was only sustained with limitations to the specific construction.

The claims for this device were constantly rejected until limited to the swiveling joint, M, as distinguished from a

Argument of counsel.

swiveling joint located elsewhere, and to the capacity for being rocked both forward and backward, while having the inclination controlled by the rocking arm, and these elements combined with the others "as set forth."

Whether the patented device is considered with reference to the peculiarities of structure which distinguished it from former machines or with reference to the mode of operation introduced by it, or with reference to the result accomplished, defendants' machine does not adopt either, but adheres to the prior type in every respect in which Graham departs from it.

The departure which Graham made was one which no experienced manufacturer would ever follow. By destroying the capacity of the machine for automatic adaptation to the surface and disturbing the alignment of the bar whenever tilted, it doomed every machine which incorporated it to be banished from the market and the field. It was hastily abandoned by each of the successive firms that were formed to manufacture it, and disappeared permanently about the time the patent was issued.

Unless complainant's claims are limited to the location of the pivotal joint, which affords the rocking movement between the finger beam and the draft rod, at a point in front of the finger beam, and to the rigid arm, by which the rocking motion is imparted, each of the combinations recited in the 1st and 2d claims is in terms and substance anticipated. If they are so limited, the question of their novelty and patentability is immaterial.

The crosswise tilt was old, and the swivel joint was the common means for providing for such movement in mowing machines.

Pa. R. Co. v. Locomotive E. S. Truck Co. 110 U. S. 490 [15 Am. & Eng. 148]; Hendy v. Golden State & Miners Iron Works, 127 U. S. 370 [18 Am. & Eng. 588].

The Graham machine containing the device in controversy was manufactured in numbers, for sale in the spring of 1863,

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put on sale, and in practical use throughout the harvest of 1863. The same was true at the harvest of 1864. The application was filed February 11, 1867.

The complainant could derive no benefit from the 1867 patent. If it is treated as an application for a patent on this invention, the cancellation of the claim upon rejection and the acceptance of the patent without it must be treated as a dedication to the public.

James v. Campbell, 104 U. S. 356 [13 Am. & Eng. 841]; *Miller v. Bridgeport Brass Co.* 104 U. S. 350 [13 Am. & Eng. 303]; *Sargent v. Hall Safe & Lock Co.* 114 U. S. 63 [15 Am. & Eng. 573].

If an applicant does not take interest enough in his application to ascertain whether it is filed within two years, which the law allows him, the consequences must fall upon him rather than that the manufacturing industries stand still to await his convenience.

Elizabeth v. Nicholson Pavement Co. 97 U. S. 126 [11 Am. & Eng. 514]; *Egbert v. Lippmann*, 104 U. S. 333 [13 Am. & Eng. 273]; *McClurg v. Kingsland*, 1 How. 202 [4 Am. & Eng. 382]; *Consolidated Fruit-Jar Co. v. Wright*, 94 U. S. 92 [11 Am. & Eng. 46]; *Pitts. v. Hall*, 2 Blatch. 229; *Shaw v. Cooper*, 7 Pet. 292 [4 Am. & Eng. 286]; *Smith & G. Mfg. Co. v. Sprague*, 123 U. S. 249 [17 Am. & Eng. 243].

The Graham patent of July 23, 1867, describing the device here in controversy as one of the inventions embraced therein, predicated upon a machine which would be inoperative without this device, and disclaiming as old the hinge on which the endwise tilt took place, operated as a dedication to the public of whatever was described as a part of the invention to which such patent related and not claimed therein.

The fact that the record in that case showed the applicant to have claimed this combination, then, after rejection, erased his claim and taken a patent without it with no reservation as to any part of the machine described therein, operated as

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an estoppel upon any disturbance of the right of the public thereto through a subsequent patent which disclosed no new invention in respect to this part of the machine.

It would be a fraud upon the public at large, if Graham, by this application, could reappropriate the subject matter to which that patent related.

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483]; Odiorne v. Amesbury Nail Factory, 2 Mason, 28; Smith v. Ely, 5 McLean, 76; James v. Campbell, 104 U. S. 356 [13 Am. & Eng. 341].

If prior patents ever operate as an abandonment, they must so operate at the time they issue, and not after the right has been forfeited by some other reason.

Miller v. Bridgeport Brass Co. 104 U. S. 350 [13 Am. & Eng. 303]; Mosler Safe & Lock Co. v. Mosler, 127 U. S. 354 [18 Am. & Eng. 560]; Godfrey v. Eames, 1 Wall. 317 [7 Am. & Eng. 174]; Suffolk Mfg. Co. v. Hayden, 3 Wall. 315 [7 Am. & Eng. 405]; Sickels v. Falls Co., 4 Blatch. 509.

There was no established royalty or license fee, and no evidence showing actual damages of any kind. On the contrary, it affirmatively appeared that there were no damages.

A complainant cannot, pending a reference to a master, manufacture, either by instruments executed by himself, or by negotiations with strangers, an *ex post facto* measure of damages to be applied to the trespass of defendants for which this reference is ordered.

An established royalty, to afford any measure of damages, must be one which has been adopted at the time of the trespass.

The value of the invention must be proved by witnesses who state under oath, and subject to cross-examination, the particular data upon which they base their estimates.

Complainant having failed to show any uniform rate established by concurrent usage, and having failed to furnish any other competent measure of damages, and having waived profits, must recover nominal damages only.

Argument of counsel.

Black v. Munson, 14 Blatch. 265; **Matthews v. Spangenberg**, 14 Fed. Rep. 350; **Greenleaf v. Yale Lock Mfg. Co.** 17 Blatch. 253; **Seymour v. McCormick**, 16 How. 480 [6 Am. & Eng. 200]; **Washington, A. & G. Steam Packet Co. v. Sickles**, 19 Wall. 611 [9 Am. & Eng. 280]; **Black v. Thorne**, 111 U. S. 122 [15 Am. & Eng. 201]; **Garretson v. Clark**, 111 U. S. 120 [15 Am. & Eng. 194]; **Suffolk Mfg Co. v. Hayden**, 3 Wall. 315 [7 Am. & Eng. 405]; **N. Y. v. Ransom**, 23 How. 487 [7 Am. & Eng. 88]; **Walker, Patents**, § 559.

No interest should have been allowed prior to the ascertainment of the amount due by the decree of the Court which modified the master's report.

Silsby v. Foote, 20 How. 378 [6 Am. & Eng. 392]; **Mowry v. Whitney**, 14 Wall. 434 [8 Am. & Eng. 506]; **Parks v. Booth**, 102 U. S. 96 [12 Am. & Eng. 470]; **Root v. Lake Shore & M. S. R. Co.** 105 U. S. 189 [13 Am. & Eng. 556].

Messrs. EPHRAIM BANNING and THOMAS A. BANNING, for appellee:

As pointed out in detail, the first and second claims of the Graham patent cover combinations of mechanisms that produce the floating finger-beam; that unite it to a stiff tongued or single-frame machine; that enable it to automatically conform to the surface of the ground; that yet enable the driver to controllably adjust the point of the guards at any desired angle; that permit the finger-beam to be folded for transportation; and that accomplish all of these results independent of the main frame.

The Courts which have passed upon the Graham patent have considered its 1st and 2d claims as covering a machine accomplishing the objects and employing the means enumerated.

Graham v. Gammon, 3 Ban. & Ard. 8; **Graham v. McCormick**, 5 Ban. & Ard. 244; **Graham v. Geneva Lake Crawford Mfg. Co.** 11 Fed. Rep. 145; **Graham v. Plano Mfg. Co.** 38 Fed. Rep. 917.

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The 1867 patent was intended to cover one part of the Graham machine, and the 1868 patent another and distinct part.

McMillan v. Rees, 5 Ban. & Ard. 274.

It is a good defence to a suit on a reissue to show that the commissioner exceeded his authority in granting it.

Mahn v. Harwood, 112 U. S. 359 [15 Am. & Eng. 322].

The statute only gives a reissue when the original is defective by inadvertence, accident or mistake.

Leggett v. Avery, 101 U. S. 256, 259 [12 Am. & Eng. 369].

The grant of a subsequent patent for an invention is an estoppel to the patentee to set up any prior grant for the same invention, which is inconsistent with the terms of the last grant.

Barrett v. Hall, 1 Mason, 473.

A party having deliberately abandoned his original application, in order that in a new one he may present his invention in a more complete and perfect form, and who receives a patent through the medium of the later application, cannot be permitted subsequently to revive the old one.

Ex-parte Bramwell, Dec. Com. Pat. (1870) 76; *Ex-parte* Hyde, Dec. Com. Pat. (1871) 111; Case of Jesse Jopling, 8 Pat. Off. Gaz. 1032.

Graham's two inventions being proper subjects for separate patents, it was competent for the office to require a division and separate applications.

Godfrey v. Eames, 1 Wall. 324 [7 Am. & Eng. 174]; *Ex parte* Heginbotham, Dec. Com. Pat. (1875) 94; Suffolk Mfg. Co. v. Hayden, 3 Wall. 315 [7 Am. & Eng. 405].

If an application is pending for a patent for several improvements, a new application may be made for a patent for one of them.

Singer v. Braunsdorf, 7 Blatch. 535; McMillan v. Rees, 5 Ban. & Ard. 269.

This class of inventions may be experimented with in public; and it has been repeatedly held that two or three years

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is a very reasonable time in which to complete an invention of this kind.

Wheeler v. Russel, Dec. Com. Pat. (1872) 32; *Kirby v. Johnson*, *Id.* 88; *Elizabeth v. Nicholson Pavement Co.* 97 U. S. 134 [11 Am. & Eng. 514]; *Coffin v. Ogden*, 18 Wall. 124 [9 Am. & Eng. 125].

There was never any delay on Graham's part, or on the part of his solicitors, of which he had any knowledge, in filing or prosecuting his applications. This being the case, his two applications must be considered as a part or continuation of the same proceeding, so that, on this question, the complainant is entitled to the same protection as if the patent sued on had been issued on the first application; and the circumstances are such that, if necessary for the complainant's protection, the first application should be considered as filed at the time it was placed in the hands of Munn & Company, the first of 1864.

Smith v. Goodyear D. V. Co., 93 U. S. 500 [11 Am. & Eng. 1]; *Godfrey v. Eames*, 1 Wall. 317 [7 Am. & Eng. 174]; *Singer v. Braunsdorf*, 7 Blatch. 521; *Bell v. Daniels*, 1 Fish. Pat. Cas. 377; *Howe v. Newton*, 2 Fish. Pat. Cas. 532; *Blandy v. Griffith*, 3 Fish. Pat. Cas. 616; *Jones v. Sewall*, 6 Fish. Pat. Cas. 364; *Goodyear D. V. Co. v. Willis*, 7 Pat. Off. Gaz. 45; *Henry v. Francestown Soap-Stone Stove Co.*, 2 Ban. & Ard. 223; *Birdsell v. McDonald*, 6 Pat. Off. Gaz. 682; *Case v. Hastings*, 7 Pat. Off. Gaz. 558; *Ex-parte Howes*, Dec. Com. Pat. (1872) 42.

In the Dolph patent it is difficult to find any mechanism which was intended to secure the peculiar motions which is in the patent to Graham.

Graham v. Gammon, 3 Ban. & Ard. 10.

The Aultman patents, the last of which was a reissue, do not anticipate the Graham invention, because they do not provide for any rocking motion.

Graham v. Geneva Lake Crawford Mfg. Co., 11 Fed. Rep. 144.

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The Zug patent has been before the Court from the beginning of the Graham litigation. In *Graham v. Gammon*, 3 Ban. & Ard. 9, Judge BLODGETT said: "It is contended that in the model of the Zug patent, which is put in evidence, there is a provision for the rocking or rolling of the finger bar; but I must say that I can find no such feature, either in the specification or model."

The patent to E. Ball, of October 18, 1859, does not have Graham's mechanism, nor any rocking motion of the finger bar; it does not have this vibratable link, his arm H, nor his swivel joints M and M'.

Graham v. Gammon, 3 Ban. & Ard. 10.

In the Bartlett and Dodge mechanism, there is no possible device in the patent for the rocking, and no device or means by which the finger-beam can be rolled or tilted in the manner provided in the Graham patent.

Graham v. Gammon, 3 Ban. & Ard. 10.

The patent issued to Andrew Wemple, January 29, 1867, was before the Court in *Graham v. Gammon*, but was held insufficient as a ground of defence.

Graham v. Gammon, 3 Ban. & Ard. 11.

These several patents do not embody the entire invention secured to the complainant in his letters patent.

Imhaeuser v. Buerk, 101 U. S. 660 [12 Am. & Eng. 443].

In his specification, just before the claims, Graham says: "Having thus described a machine embodying all my improvements, I declare that I do not limit my new combinations to the particular forms represented in the drawings, but intend to vary the form and construction of the members of the combinations, or to use equivalent members in their places, as circumstances may render expedient."

This clause should be regarded as a part of the claim, and as explaining its meaning, application and extent. This part of the claim stands precisely as it was in the original application.

La Rue v. Western Electric Co., 28 Fed. Rep. 89.

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The evidence shows Mr. Graham to be the first who has really accomplished this desirable tilting or tipping motion.

Graham v. Gammon, 3 Ban. & Ard. 11.

The differences between defendants' and complainant's machines are differences of form, and not of substance.

Graham v. Geneva Lake Crawford Mfg. Co., 11 Fed. Rep. 147.

After Judges DRUMMOND and DYER had announced their decision in favor of the complainant, March 18, 1880, the defendants filed a petition for a rehearing.

Such petitions are addressed to the discretion of the Court. They may grant them, or refuse them, and their action in either case is not open to review in this Court.

Pomeroy v. State Bank of Indiana, 1 Wall. 597; *Henderson v. Moore*, 5 Cranch, 11; *Alexandria Marine Ins. Co. v. Young*, 5 Cranch, 187; *McCanahan v. Universal Ins. Co.*, 1 Pet. 183; *U. S. v. Buford*, 3 Pet. 32; *Barr v. Gratz*, 4 Wheat. 213; *Blunt v. Smith*, 7 Wheat. 248; *Brown v. Clarke*, 4 How. 4.

In an action at law for the infringement of a patent, the plaintiff can recover a verdict for only the actual damages which he has sustained; and the amount of such royalties or license fees as he has been accustomed to receive from third persons for the use of the invention, with interest thereon from the time when they should have been paid by the defendants, is generally, though not always, taken as the measure of his damages; but the Court may, whenever the circumstances of the case appear to require it, inflict vindictive or punitive damages, by rendering judgment for not more than thrice the amount of the verdict.

Seymour v. McCormick, 16 How. 489 [6 Am. & Eng. 200]; *Tilghman v. Proctor*, 125 U. S. 148 [17 Am. & Eng. 552]; *Locomotive Safety Truck Co. v. Pa. R. Co.*, 5 Ban. & Ard. 518; *Mowry v. Whitney*, 14 Wall. 658 [9 Am. & Eng. 1]; *Littlefield v. Perry*, 21 Wall. 229 [9 Am. & Eng. 446].

Where a patentee has clearly suffered a material loss by

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the defendant's use of his invention, and has produced all the evidence of which the nature of the case admits to establish the amount, there has never yet been a case in which his recovery has been restricted to nominal damages.

McKeever v. U. S. 23 Pat. Off. Gaz. 1529 [14 Am. & Eng. 414].

The general rule that an established royalty or license fee constitutes the true criterion of damages can only be applied where there is a fixed and established price at which a license is granted.

Black v. Munson, 14 Blatch. 265, 2 Ban. & Ard. 626; Matthews v. Spangenberg, 14 Fed. Rep. 351.

An established license fee is competent and satisfactory evidence of the value of a patent right, because the price which it commands between those who sell and purchase it is the best criterion of its value.

Wooster v. Simonson, 16 Fed. Rep. 680; Nat. Car Brake Shoe Co. v. Terre Haute Car & Mfg. Co. 19 Fed. Rep. 517.

There being no established patent or license fee in the case, in order to get a fair measure of damages, or even an approximation to it, general evidence must necessarily be resorted to.

Suffolk Mfg. Co. v. Hayden, 3 Wall. 320 [7 Am. & Eng. 405].

He is the first inventor in the sense of the Act, and entitled to a patent for his invention, who has first perfected and adapted the same to use; and until the invention is so perfected and adapted to use, it is not patentable.

Reed v. Cutter, 1 Story, 590; 2 Robb, Pat. Cas. 90; White v. Allen, 2 Fish. Pat. Cas. 446; Roberts v. Reed Torpedo Co. 3 Fish. Pat. Cas. 631; Howe v. Underwood, 1 Fish. Pat. Cas. 166; Elizabeth v. Nicholson Pavement Co. 97 U. S. 134 [11 Am. & Eng. 514].

His acts are to be construed liberally; he is not to be estopped by licensing a few persons to use his invention to ascertain its utility, or by any such acts of peculiar indulgence and use as may fairly consist with the clear intention to hold the exclusive privilege.

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Jennings v. Pierce, 15 Blatch. 42, 3 Ban. & Ard. 365; *Innis v. Oil City Boiler Works*, 22 Fed. Rep. 780; *Campbell v. N. Y.* 9 Fed. Rep. 503; *Elizabeth v. Nicholson Pavement Co.* 97 U. S. 126 [11 Am. & Eng. 514]; *Mellus v. Silsbee*, 4 Mason, 108; 1 Robb, Pat. Cas. 509; *Draper v. Wattles*, 3 Ban. & Ard. 620, 621.

The mere fact that a new article is shown in the drawings of a patent for a machine would not of itself be an abandonment of the new article, which would properly be the subject of a different patent, until the statutory forfeiture of use for two years had been incurred.

Hatch v. Moffitt, 15 Fed. Rep. 252, 255; *Suffolk Mfg. Co. v. Hayden*, 3 Wall. 315 [7 Am. & Eng. 405]; *Wilson v. Cubley*, 26 Fed. Rep. 157; *Vt. Farm Machine Co. v. Marble*, 19 Fed. Rep. 307, 20 Fed. Rep. 117; *Graham v. McCormick*, 11 Fed. Rep. 859; *Graham v. Geneva Lake Crawford Mfg. Co. Id.* 138; *McMillan v. Rees*, 1 Fed. Rep. 722; *Cahn v. Wong Town On*, 19 Fed. Rep. 424; *Callender v. Griffith*, 18 Blatch. 110, 2 Fed. Rep. 206; *Eastern Paper Bag Co. v. Standard Paper Bag Co.* 30 Fed. Rep. 65.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought in the Circuit Court of the United States for the Northern District of Illinois, by Hugh Graham against Cyrus H. McCormick, Leander J. McCormick, and Robert H. McCormick, on the 8th of June, 1877, founded on the alleged infringement of letters patent, No. 74,342, granted to Alvaro B. Graham, February 11, 1868, for an "improvement in harvesters." In the course of the suit the defendant Cyrus H. McCormick having died, his executor, Cyrus H. McCormick, and his executrix, Nettie Fowler McCormick, were substituted as defendants in his stead.

The defences set up in the answer were want of novelty and non-infringement. After issue joined, proofs were taken on both sides, and on the 24th of April, 1882, the Court

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made an interlocutory decree, holding the patent to be valid as regarded its 1st and 2d claims, decreeing that the defendants had infringed those claims, awarding a recovery of profits to the plaintiff from the 12th of August, 1870, the date of the assignment of the entire patent by the patentee to the plaintiff, and referring it to a master to take an account of profits and damages. On the 21st of July, 1884, the master made a report awarding a sum of money in favor of the plaintiff, to which both parties filed exceptions. On a hearing the Court sustained some of the defendants' exceptions and overruled all others, and rendered a money decree in favor of the plaintiff. Both parties prayed appeals to this Court, but the plaintiff did not perfect his appeal. Since the record was filed in this Court, the plaintiff has died and his administrator, Peter Whitmer, has been substituted in his place as appellee.

Only claims 1 and 2 of the patent are involved. The specification states, among other things, that one object of the improvements which constitute the invention set forth in the patent, is to obtain a greater capacity of movement in a floating finger-beam, while retaining its connection with a gearing-carriage that is drawn forward by a stiff tongue; that, to that end, the first of the improvements of the patentee "consists of the combination of the finger-beam with the gearing-carriage by means of a vibratable link extending crosswise to the line of draft, a draft-rod extending parallel with the line of draft, and two swivel-joints, the one for the vibratable link, and the other for the draft-rod, so that the finger-beam can rise and fall at either end, and rock forward or backward independently of the gearing-carriage, while maintaining its connection with it;" and that his "next improvement consists of the combination of the finger-beam, gearing-carriage, vibratable link, draft-rod, and swivel-joints, with an arm connected with the finger-beam, to enable it to be rocked for the purpose of setting its guard-fingers at any desirable inclination to a horizontal line."

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The specification further says: "My improvements may be embodied in a machine having the finger-beam arranged in advance of the axial line of the shaft or arbor of the driving-wheel, or arranged in the rear of that axial line. In the former case, the vibratable link that connects the finger-beam with the gearing-carriage will be arranged in advance of the driving-wheel, and in the latter case in the rear of the driving-wheel. In the former case, also, the rod hereinbefore called a 'draft-rod' (because the strain to which it is subjected is a pulling strain) becomes a pushing or thrust-rod, and connects the inner end of the finger-beam with the rear of the gearing-carriage. In the former case, the radius-bar for the reel and raking platform connects with the rear end of the gearing-carriage, and in the latter case with its front end. I prefer to construct a harvesting machine with the finger-beam in the rear of the line of the axle of the driving-wheel, and, as a description of such a machine, perfected by my improvements, will enable them to be fully understood, all of my improvements are embodied in the harvesting machine of that description which is represented in the accompanying drawings, and which is an illustration of the best mode which I have thus far devised of embodying them in a working machine."

There are twelve figures of drawings. The specification states that the machine is what is commonly called a "combined machine;" and is adapted to reaping and mowing; that, when used for the former purpose, it is arranged as represented in Figs. 1 to 6; that, when used for the latter purpose, certain of its parts are removed, as thereafter stated, and a grass-divider is substituted for the grain-divider, at the outer end of the finger-beam; and that the gearing which imparts motion to the sickle and reel is mounted upon a carriage, A, which is supported by two running or ground-wheels, and is provided with a tongue to which the horses are hitched.

The parts of the specification which relate particularly to

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the subject-matter of claims 1 and 2 are as follows: "The finger-beam, G, of the machine projects at one side of the rear end of the gearing-carriage, A, and is fitted with guard-fingers, H, through the slots of which a scalloped cutter, I, is arranged to reciprocate endwise. The end of this cutter that is nearest the gearing-carriage is connected with the crank-wrist *g* of the crank-shaft D², by means of a connecting rod, J. The finger-beam is connected with the rear end of the gearing-carriage in the following manner: the end of the beam nearer the carriage is provided with a shoe, K, from which lugs *a a* project upward. These lugs are perforated to admit a joint bolt, *a*¹, which connects the shoe with one end of a vibratable forked link, L, whose other end is connected by a swivel-joint, M, with a bracket, N, secured to the rear of the gearing carriage. This swivel joint is formed by a cross-head (*m*, Fig. 1^a), the centre of which is bored transversely, to permit a journal formed on the end of the forked link L to turn in it. The ends of the cross-head *m* are formed into journals, which turn in bearings upon the bracket N. Hence the finger-beam can both rise and fall freely at either end, and rock forward and backward without twisting the link that forms its connection with the gearing-carriage. Moreover, the axis of the cross-head *m* of the swivel joint is arranged in line, or thereabout, with the axis of the crank-shaft D², that imparts motion to the cutter, so that such rising or falling, or rocking, does not materially change the distance between the crank-shaft and the cutter. The shoe K of the finger-beam is connected also with the front end of the gearing-carriage by a draft-rod, O, and the connection between the rear end of this draft-rod and the said shoe is a swivel-joint, M', of which the joint-pin *a*¹ of the vibratable link L is the longitudinal axis, and its T-head *m*¹ the horizontal axis. The swivel-joint, therefore, while maintaining a firm connection with the draft-rod, gives free play for both the longitudinal and rocking movements of the finger-beam. Hence, when the machine is used for cutting

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grass, the said finger-beam may be left free, not only to rise and fall at either end, but also to rock or to be rocked forward and backward, so that the points of its guard-fingers incline toward or from a horizontal plane. In order that the finger-beam may be rocked by the conductor of the machine, the vibratable link, L, is fitted with an arm, *l*, whose upper end is connected by a rod with the lower end of a lever, P, that is pivoted to the gearing-carriage near its forward end. The upper end of this lever, P, extends within the reach of the driver, who sits upon the driver's seat, Q, so that he may rock the finger-beam by moving the said lever to and fro. This rocking lever, P, is fitted with a spring bolt, whose end can engage in any one of a number of notches formed in a segment, R, which is attached to the gearing-carriage concentrically with the pivot of the rocking lever, so that the finger-beam may be fastened in the desired position by the engagement of the spring bolt in the appropriate notch. The rocking lever is fitted with a lever handle, *p*, and rod connecting with the spring bolt, by which the spring bolt may be withdrawn from the notched segment and held disengaged therefrom during the movement of the lever. In order that the connection between the cutter on the finger-beam and the crank-shaft on the gearing-carriage may not obstruct the free rocking of the finger-beam, the connecting rod, J, is connected with the cutter, I, by means of a swivel joint, S, consisting (see Fig. 1^b) of a head, *s*, that is pivoted to the cutter stock (by a shank that extends lengthwise therewith, and turns in an ear, *s*¹, secured to the end of the cutter stock), and of a cross pivot, *s*², that passes through the said head and through two ears formed upon the connecting rod J."

There are ten claims in the patent, claims 1 and 2 being as follows: "1. The combination, as set forth, in a harvester, of the finger-beam with the gearing-carriage, by means of the vibratable link, the draft-rod and the two swivel-joints M and M¹, so that the finger-beam may both rise and fall at either end, and rock forward and backward. 2. The com-

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bination, as set forth, in a harvester, of the finger-beam, gearing-carriage, vibratable-link, draft-rod, swivel-joints, and arm, by which the rocking of the finger-beam is controlled."

It will conduce to a solution of the questions involved in the case, to give a history of the progress of the application for the patent through the Patent Office, as gathered from certified copies of those proceedings found in the record: On the 4th of December, 1865, the patentee, Alvaro B. Graham, as assignor to himself, William B. Werden, and Cyrus A. Werden, filed in the Patent Office an application for a patent, which was sworn to by him on the 25th of February, 1864. The specification of this application stated that one object of the invention was the free passage of the finger-bar over the ground, and the perfect moving of it to adjust itself to the inequalities of surface over which it might pass; and that another object of the invention was the cutting in a proper manner of lodged grass or grain. It also stated that the machine had a finger-bar, I, the inner end of which was attached, by a joint, h, to a bar, J, which was at the rear of the main frame, A, and was connected thereto, at its left hand side, by a swivel or universal-joint, K, such joint being composed of a rod, i, which was allowed to turn in a bearing, j, attached to the main frame, the end of the bar, J, being cylindrical and allowed to turn in the rod, i; that the joint, K, admitted of the bar J and finger-bar I being raised vertically, and also admitted of those bars being turned in a more or less inclined position, in their transverse section, to admit of the fingers and sickle being turned more or less down towards the ground, as might be required; that this adjustment of the fingers and sickle was effected through the medium of a lever, M, which was connected by a rod, l, with an upright, m, on the bar, J; that this lever, M, might be retained in any desired position, within the scope of its movement, by means of a perforated bar, n, into the holes of which a pin on the lever caught; that the finger-bar, I, might be

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raised separately from the joint *h*, as a center, through the medium of a lever, *N*, which, like the lever *M*, was attached to the main frame *A*, and had a chain or cord attached to its lower end, said chain or cord passing around a pulley, *q*, on the bar *J*, and being attached to the upper end of an upright, *r*, attached to the finger-bar at the joint *h*; that both bars, *I* and *J*, might be elevated simultaneously by a lever, *O*, which was also attached to the main frame *A*, and bore at its lower end on another lever, *P*, the outer end of which was connected by a chain, *s*, with the bar *J*; that the lever, *O*, might be retained at any desired point, within the scope of its movement, by means of a rack bar, *P'*; that, in case an obstruction presented itself to the inner end of the finger-bar, *I*, the lever, *O*, was actuated in order to raise such end of the finger-bar, and if an obstruction presented itself to the outer end of the finger-bar, the lever, *N*, was actuated; and that the applicant did not claim the connecting of the finger-bar, *I*, to the bar *J*, by a joint *h*, for that had been previously done.

There were five claims in the specification, the first two of which were as follows: 1. "The attaching of the bar, *J*, to the main frame, *A*, by means of the swivel or universal joint *K*, when used in combination with the finger-bar *I*, attached to it by a joint, *h*, and this I claim irrespective of any peculiar position of the parts or particular application of the same to the frame of the machine, so long as the desired result is obtained." 2. "The arrangement of the lever *N* chain or cord *p*, an upright *r*, substantially as shown, for raising the outer end of the finger-bar *I*, as set forth." On the 30th of December, 1865, the Patent Office rejected claims 1 and 2 on a reference to prior patents. On the 24th of March, 1866, the applicant erased claims 1, 2 and 3, and substituted for claim 1 the following: 1. "The combination of the finger-bar *I* and bar, *J*, attached to the frame *A* by means of the universal joint or swivel *K*, in the manner and for the purpose herein specified." On the 4th of April, 1866,

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the Patent Office rejected this substituted claim 1, by a reference to a prior rejected application and to a prior patent. On the 1st of October, 1866, it allowed the two remaining claims applied for, which had been numbered 4 and 5 originally. On the 18th of June, 1867, the applicant filed a withdrawal of the amendments filed March 24, 1866, the effect being to limit the invention claimed under the patent to the two claims allowed October 1, 1866, and the patent was granted July 23, 1867, as No. 67,041, with those two claims, which in no manner relate to any question involved in the present suit.

Prior to such withdrawal of June 18, 1867, and on the 11th of February, 1867, Mr. Graham filed an application which resulted in the patent in suit, No. 74,342, issued February 11, 1868. Claims 1 and 2 of the specification of that application originally read as follows: 1. "The combination, in a harvester, of the finger-beam with the gearing-carriage, by means of a vibratable-link, draft-rod, and two swivel-joints, so that the finger-beam may both rise and fall at either end, and rock forward and backward, substantially as set forth." 2. "The combination, in a harvester, of the finger-beam, gearing-carriage, link, draft-rod, swivel-joints, and arm, by which the rocking of the finger-beam is controlled, substantially as set forth." There were fifteen claims in all made in the specification. On the 29th of July, 1867, the Patent Office rejected claims 1 and 2 by a reference to prior patents. On the 31st of December, 1867, the applicant amended claims 1 and 2 so as to read as they are in the patent as granted. The changes thus made in those two claims, and which, under the circumstances, were made to secure the issuing of the patent, the claims having been rejected in the shape in which they were first proposed, were these: In claim 1, "the combination as set forth," was substituted for "the combination;" "the vibratable link," for "a vibratable link;" "the draft-rod," for "draft-rod;" "the two swivel-joints, M and M'," for "two swivel-

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joints;" and the words "substantially as set forth" were erased. In claim 2, "the combination as set forth," was substituted for "the combination;" "vibratable link," for "link;" and the words "substantially as set forth" were erased. In the 2d claim the word "the" was always prefixed to the enumerated elements composing the combination claimed.

The principal question for determination, in the view we take of the case, is that of infringement. The Circuit Court, in its opinion, delivered on the making of the interlocutory decree (10 Biss. 39, and 11 Fed. Rep. 850), considered especially two prior patents, one granted to David Zug, October 4, 1859, No. 25,697, and the other granted to F. Ball, October 18, 1859, No. 25,797. In considering those patents, on the question of infringement as well as on the question of novelty, the Circuit Court said: "The two claims of the Graham patent, which are alone in controversy here, are the 1st and 2d. The 1st claim is for a combination of the finger-beam with the gearing-carriage by means of the vibratable link, the draft-rod, and the two swivel-joints, M and M', so that the finger-beam may both rise and fall at either end and rock backward and forward; and the 2d claim is the same as the 1st, with this only added: that an arm is attached to the vibratable link by which the rocking of the finger-beam is controlled by the driver. The object of this invention, as set forth in these two claims, seems to be mainly to produce the rocking motion of the finger-beam as described and by the method described. In the Ball patent, while there may be said to be something equivalent to the swivel-joint, M, of the plaintiff's machine, where it is attached to the frame, and also something similar to the draft-rod and the arm, there is nothing to produce the rocking motion, which is the essential object in the first two claims of the plaintiff's machine; and consequently there is no swivel-joint M', as in the plaintiff's machine; so that there is nothing in the Ball machine to prevent the validity of the combination

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in the first two claims of the plaintiff's patent. The Zug machine has, if not a swivel-joint like that of the plaintiff's at M, where connected with the frame, something which seems substantially similar. It has a vibratable link and it has something which is equivalent to the draft-rod, the main difference being that it is attached beneath the shoe instead of above, but there is no swivel-joint M'. There is an arm which is attached to the draft-rod and shoe by which it can be raised and lowered; but Zug claims in his patent that when the machine is in progress over the field; and when the finger-bar strikes any obstacle, there is a device in a box in which the forward part of the draft-rod is fastened, by which the finger-bar yields to the obstacle; and that there is also a mode by which the vibratable rod is attached to the frame, called 'joint 16,' in his patent, and what has been termed an open clevis, where the vibratable link is connected with the draft-rod, by which a motion is given to the finger-bar, and thus the finger-bar is relieved from the obstacle. Zug does not claim that the finger-bar in his machine has a rocking motion, but only that the mode by which the draft-rod is fastened and the motion given to the finger-bar prevents the obstacle which the machine may meet from doing damage to it. These seem to be the main differences between the two machines, and the question is whether there is anything in the Zug machine to prevent the combination named in the first two claims of the plaintiff's patent from being valid. The defendants' machine has the swivel-joint attached to the frame, the vibratable link in the same form as the plaintiff's, and the draft-rod attached forward in substantially the same way as the plaintiff's, but instead of having a swivel-joint at M', as stated in plaintiff's machine, forward of the shoe, the draft-rod has a swivel-joint at the rear end of the shoe; and there is an arm attached to a part of the vibratable link substantially like that of the plaintiff's; and the substantial difference, as it seems, between the plaintiff's device as described in the 1st and 2d

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claims, and that of defendants', is that the draft-rod is attached to the rear part of the shoe and not to the forward part, as in the plaintiff's patent. There are also other devices in the defendants' machine which may make it different from the plaintiff's. But as to the swivel-joint, the vibratable link, and the mode in which the motion is produced in the finger-bar, there does not seem to be much difference in substance; and in both machines, and by substantially the same means, there is produced a rocking motion. In this connection it is noticeable that the defendants, in the claim set forth in the specification of their patent, make a rocking motion of the shoe and cutter a feature of their combination. In their second claim they say that they claim the combination of the 'shoe, and the drag-bar extending over and in rear of the shoe, and its swiveled-pin connecting it with the rear end of the shoe, whereby the drag-bar sustains the thrust of the shoe while leaving it free to rock on its hinges.' Again, in their 5th claim, they say that they claim the combination 'of the shoe, the forked coupling arm, the drag-bar extending over and in rear of the shoe, the swivel-pin connecting the two, the rocking lever and the detent mounted on the drag-bar, and the adjustable link connection between the lever and coupling arm, whereby the shoe readily may be rocked or adjusted.' And again, the motion which seems to be produced in the operation of plaintiff's machine is more distinctly described in the 7th claim made by the defendants in their patent as follows: The combination 'of the shoe, the drag-bar, the forked coupling arm,' and the other elements of mechanism before mentioned, 'whereby the shoe is first rocked and then lifted by one continuous movement of the lever.' It must be confessed that the difference between the Zug machine and the first two claims of plaintiff's patent is not very marked. But in view of the description contained in the specifications of Zug's patent and in those of the plaintiff's patent, we are inclined to think that the plaintiff's patent may be sustained on the ground that there

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is a difference in the manner in which the draft-rod is attached to the shoe, and the finger-bar to the shoe and to the vibrating link; and that there is also a difference in the manner in which the combination of the various parts are adjusted; and that there is an effect produced in the plaintiff's machine which does not exist in the Zug machine. In the plaintiff's machine there is a rocking motion, and not a mere vibratory motion, such as exists in the Zug machine in consequence of the open clevis; neither is there in the plaintiff's machine the yielding of the draft-rod, as described in the Zug patent; and it is obvious, too, from the manner in which the parts are constructed in the Zug machine, that there is only a small vibratory action of the finger-bar; so that, on the whole, we think that the combination as described in plaintiff's patent may be sustained. Then, from what we have said, we do not see that there can be any substantial difference between the combination, as described in the plaintiff's machine, of the swivel-joints, draft-rod, and vibratable link, with the frame and shoe and finger-bar, and that of the defendants' machine. The differences which have been stated between the two machines in this respect do not constitute any difference in principle. The one is substantially the same as the other. The additions which have been made to defendants' machine, such as the device by which the pressure of the cutting apparatus upon the ground is regulated, and other devices which have been made, do not affect the combination as claimed in the plaintiff's machine. The attachment of the draft-rod to the rear part of the shoe instead of to the front part, which is substantially the only difference that there seems to be in the mode of construction, cannot constitute a difference in principle, and cannot prevent the defendants' machine from being an infringement of the plaintiff's patent. It may be said that there are differences also between the defendants' machine and that of the plaintiff, in the manner in which the arm is attached to the vibratable link, and also as to the mode in

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which the force applied to the arm may operate upon the finger-bar ; but these are differences of form and not of substance."

The specification referred to in that opinion as the specification of the defendants, and quotations from claims 2, 5, and 7 in which are made, is a patent under which the defendants' machines were constructed, No. 193,770, granted July 31, 1877, to Leander J. McCormick, William R. Baker, and Lambert Erpelding, assignors to C. H. and L. J. McCormick.

The invention of the patentee is carried back to November or December, 1863, at which time he made a model containing his perfected invention, which he shortly afterwards sent to his patent solicitors, and which was sent to the Patent Office with the application sworn to February 25, 1864, and filed December 4, 1865. The delay seems not to have been attributable to the applicant.

The patents introduced in this case as affecting the questions of novelty and infringement, and which were prior to the invention of Graham, and which seem to be relied on by the appellee, were as follows: To George C. Dolph, No. 18,141, issued September 8, 1857; to W. S. Stetson and R. F. Maynard, No. 24,063, issued May 17, 1859; the Zug patent; the Ball patent; and one to Stephen S. Bartlett, No. 34,545, issued February 25, 1862.

We are of opinion that the Circuit Court took an erroneous view of the question of infringement. The capacity of the finger-beam to "rise and fall freely at either end," spoken of in the specification of the plaintiff's patent, was not a new thing with him, but had been used for many years in mowing and reaping machines, the finger-beam moving on a pivot at its inner end; and the plaintiff, in the specification of his patent of July 23, 1867, stated that he did not claim the connecting of the finger-bar, I, to the bar, J, by the joint, h, because that had been previously done. It was also old to have a lever connected by a loose connection, by which

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the driver could tip up the front edge of the finger-bar arbitrarily, and secure it so that it could not fall below the inclination at which he had set it, although it was left free to tip up further automatically.

The arrangement spoken of in the plaintiff's specification, whereby the finger-beam can "rock forward and backward without twisting the link that forms its connection with the gearing-carriage," was secured by making the pivot on which the crosswise tilt takes place, at a point in front of the beam, so that the pivot rises and falls with the guard-fingers, and an arm is provided by which the movement of the finger-beam in both directions is controlled by the driver, instead of its being independent of his control in its downward movement, as was the case in prior machines. It is apparent, from the proceedings in the Patent Office on his application, and from the terms of his specification and of claims 1 and 2 as granted, that the intention was to limit the modification which he made, to the particular location of the swivel-joint, M', on which the crosswise rocking movement takes place, and to the rigid arm by which the positive rocking of the finger-beam in both directions is effected and controlled.

In a mowing machine for cutting grass, where it is desirable to cut near to the ground in order to cut and use as much of the grass as possible, the front edge of the finger-beam must bear closely on the surface of the ground, with a yielding pressure, so that it will rise freely in order to pass over such irregularities in the surface of the ground as do not require that the finger-beam should be bodily lifted. This yielding pressure is secured by a capacity in it to swing upward on its heel as a pivot, because, if its front edge were held rigidly down upon the ground, the guard-fingers would be driven into every obstruction. This necessity does not exist in machines for harvesting grain, because in them the finger-beam is set several inches above the ground, the grain being the desirable object, rather than the straw, and the carrying of the finger-beam at an elevation prevents its meet-

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ing with obstructions ; and hence there is no such occasion, as in mowing machines, for its front edge being left free to swing upward.

The capacity, if any, which Graham added to the machines in general use, was one for raising and lowering the pivot of oscillation, which had before been stationary, and a further capacity for a positive downward tilt or forward rocking, which enabled the driver to tip up the heel of the finger-beam and force the fingers under lodged grain or grass. The rocking forward and backward, spoken of in the plaintiff's specification, is applied to a tilting backward which rocks the front of the finger-beam upward, and to a tilting forward which rocks the heel of that beam upward and its front downward. In the defendants' machine there is no such rocking backward and forward, but there is a swinging motion, the same as in the prior Ball patent, the pivot on which the tilting takes place being in the rear of the finger-beam, and there being no means of positively tipping the front of the beam downward or of raising its heel to force its front edge and the finger-guards downwards. In the Ball patent, the draft-rod passes under the finger-beam, and in the defendants' machine the draft-rod passes over the finger-beam, to reach the pivotal point, which is in both cases the same. In both of them, the weight of the finger-beam being in front of the pivot tends to hold its front edge down upon the ground ; but, when the finger-guards strike any elevation, the front edge of the beam swings up freely on its rear pivot, the tendency being for its weight to carry it back to its original position as soon as the elevation is passed. In the Ball patent there is a lever connected with a chain which can raise the finger-beam or hold it up, but cannot affirmatively depress it, its downward movement being dependent solely upon the fact that its weight is in front of the pivot on which it turns. In the defendants' machine there is a substitute for the Ball chain, namely : a loose sliding link, which permits of the same upward movement that the chain

Opinion of the Court.

does, and which cannot force or hold the beam down. In both the Ball machine and the defendants' machine the propelling force from the draft-rod is exerted from the pivot in the rear; and in both the front edge of the finger-beam, where the guards are situated, is left free for the swinging movement above mentioned.

In contradistinction to this, the pivotal connection between the finger-beam and the draft-rod in the plaintiff's machine, instead of being at the heel of the finger-beam, is placed in front of it, at the swivel-joint, M' , and a rigid arm, l , is mounted on the vibratable link, so that the beam can thereby be rocked backward and forward by the driver, to tip the heel of the shoe up and the front down, or the front up and the heel down, the heel of the finger-beam being lifted by the forward rocking of the arm l , and its front being lifted by the backward rocking of such arm. By the locking of the lever which works the arm, the finger-beam can be set at any desired inclination. The movement of the finger-beam in each direction is positive. In the defendants' machine, it swings on a pivot at its rear, which is not raised or lowered by the upward or downward tilt of the guard-fingers, while in the plaintiff's machine, as the finger beam rocks on the swivel-joint M' , the heel of the finger-beam is lifted from the ground as the finger-guards are turned downward.

In the Zug patent, of October, 1859, there is a finger-beam attached to the rear end of the machine by a vibratable link, which is itself attached at its rear end loosely to the machine, and is also fitted loosely within the draft-rod, so that there is a considerable rising and falling motion to the front end of the shoe, whereby the guard-fingers can be elevated and depressed to a considerable extent, and in substantially the same manner as in the defendants' machine, the raising and lowering of them being accomplished at a similar point as in the defendants' machine, the difference in the rising and falling motion of the finger-beam in the Zug and in the defendants' machine being a difference only in degree.

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In the Ball patent of October, 1859, there is a finger-beam attached by a hinged vibratable link, and there is a draft-rod which is hinged at its front end. A shoe is attached to the rear end of the draft-rod, with a free up-and-down hinged joint. The finger-beam of the machine is attached in front of this hinge, and such hinged connection admits of the rising and falling of the front of the shoe and of the finger-beam. This motion is not a rocking motion, as in the plaintiff's patent, but is substantially the same rising and falling motion that is found in the defendants' machine, the only material difference being that, in the Ball patent, the draft-rod extends under the shoe and finger-beam, and prevents them from falling down lower than a horizontal position; whereas, in the defendants' machine, the draft-rod extends over the shoe and finger-beam to the same point of attachment as in the Ball patent, and thus the finger-beam can fall lower than in the Ball patent, and even to below a horizontal position; but the finger-beam in the Ball patent can rise and fall as freely at either end as in the defendants' or the plaintiff's machine, and the crosswise rising and falling motion in the Ball patent is of the same character as in the defendants' machine, but wholly unlike the rocking motion, or the forward and backward motion, of the finger-beam in the plaintiff's patent.

In the Bartlett patent, of February, 1862, there is a finger-beam attached at its rear by a vibratable link, which has a swivel-joint at its outer end and a free-joint at its inner end, in connection with a shoe and with a draft-rod which extends from the front end of the machine to the rear end of the shoe; and the finger-beam is attached to the shoe in front of the vibratable link. There is also a lever which rocks forward and backward, and is so arranged that the finger-beam and the draft-rod rise and fall, and the finger-beam rocks forward and backward, substantially in the same manner as in the plaintiff's patent, though with a less perfect motion. But there is considerable forward and back-

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ward rocking motion, and the rocking takes place with substantially rigid lever devices, and there is substantially the same rising and falling motion of the finger-beam at either end as in the plaintiff's patent.

In view of this prior state of the art, the question of infringement stands in this way: In the defendants' machine there is, in combination with the gearing-frame, a vibratable link connection with the finger-beam, not very materially different from the vibratable link connection in the plaintiff's patent; but the draft-rod in the defendants' machine is different from that of the plaintiff's patent, in that its forward connection is not substantially a swivel-joint, but is so hinged as to afford no torsional action, and the draft-rod is connected with the shoe at nearly the extreme rear end of the shoe, while the draft-rod in the plaintiff's patent has swivel-joints at both its forward and rear ends, and such joints have substantially a free torsional capacity. So, too, the draft-rod in the plaintiff's patent is attached to the shoe in front of the finger-beam, instead of at the extreme rear end of the shoe, as in the defendants' machine. As a consequence of these several arrangements, the finger-beam in the plaintiff's patent rocks freely, both forward and backward, in such manner that the rear of the finger-beam may be elevated and the guards be thrown down, or the front of it may be elevated and the guards be thrown up, with an equal rocking motion in either direction; whereas, in the defendants' machine, when the finger-beam is operated upon by the lever, the front part of it merely rises and falls with a swinging motion from its pivoted point in the rear. The defendants' machine differs from the plaintiff's patent in that its finger-beam cannot be raised at all at its rear by the lifting lever, and cannot be positively moved downward by that lever. Therefore, as the finger-beam in the defendants' machine does not have the motion which results from the combination of the elements specified in the 1st claim of the plaintiff's patent, and does not "rock forward and back-

Opinion of the Court.

ward" in the sense of that claim, or in the sense described in the specification of the plaintiff's patent, it does not infringe such 1st claim. Nor does it contain the swivel-joint M', specified in the 1st claim, located and operating as in the plaintiff's patent. The 1st claim of that patent must in view of the state of the art, and of the special limitations put upon it on the requirement of the Patent Office, be limited to the special construction and arrangement set forth in that claim.

The same views apply to the 2d claim of the patent, which contains combined all the elements set forth in the 1st claim, with the addition of the rigid arm, L. That arm, in the plaintiff's patent, has a rigid connection with the vibratable-link to which it is attached, and through such arm the finger-beam is made to rock backward or forward by positive action, in either direction; while in the defendants' machine there is no such rigid arm, but only a connection by which the front of the finger-beam can be lifted, while it falls by its own weight when released, instead of being positively forced down, as in the plaintiff's patent. This species of lifting device was old.

In regard to the extracts set forth in the opinion of the Circuit Court from the defendants' patent of July, 1877, we are of opinion that the 2d, 5th and 7th claims of that patent, in speaking of the shoe as "rocking," can only refer to its swinging on a hinge at its rear end; and that the term "rocking" is not used in the sense in which it is used in the plaintiff's patent, because, neither in the defendants' patent nor in their machine has their shoe or their finger-beam any such rocking motion as is described in the plaintiff's patent.

It results from these views that, on a proper construction of claims 1 and 2 of the plaintiff's patent, the defendants have not infringed it; and that *the decree of the Circuit Court must be reversed, and the cause be remanded with a direction to dismiss the bill of complaint, with costs.*

Notes and citations.

Patents in suit:

No. 74,842. A. B. Graham. February 11, 1868. Harvester.

No. 193,770. McCormick, Baker & Espaulding, July 31, 1877. Harvester.

OTHER SUITS ON SAME PATENT:

Graham v. Gammon & Deering, 1877. 7 Biss. 490; 3 Ban. & Ard. 7.

Graham v. McCormick, 1880. 10 Biss. 39; 21 O. G. 1533; 11 Fed. Rep. 859; 5 Ban. & Ard. 244.

Graham v. Geneva Lake Crawford Mfg. Co., 1880. 11 Fed. Rep. 138; 21 O. G. 1536.

Graham v. Plano Mfg. Co., 1888. 33 Fed. Rep. 917.

Graham v. Plano Mfg. Co., 1888. 35 Fed. Rep. 597.

Cited:**IN CIRCUIT COURTS IN:**

Falls River Co. v. Wolfe, November 1889. 40 Fed. Rep. 465.

IN TEXT BOOKS:

Robinson on Patents, 1890. § 1032.

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Statement of the case.

JAMES T. SARGENT ET AL, ADMINISTRATORS
OF H. GORHAM, DECEASED, APPELLANTS, *v.*
EDWIN K. BURGESS.*

129 U. S. 19-26. October Term, 1888.

[Bk. 32, L. ed. 604; 46 O. G. 693.]

Argued December 12, 13, 1888. Decided January 7, 1889.

Particular patent construed and limited, "Substantially as shown." Construction of claims.

1. Claim 3, of Letters Patent, No. 223,338, J. M. Gorham, January 6, 1880, wash-board frames "In combination with a wash-board," a protector located below the crown-piece, and between the side pieces of the wash-board frame, and constructed to fold down into or upon said wash-board frame, "substantially as and for the purpose shown," construed and limited to the combination with a protector constructed to bend or yield to pressure and to return to its position when such pressure is removed. (p. 210.)
2. *Held*, not infringed by a wash-board constructed under Letters Patent, No. 255,555, C. H. Williams, March 28, 1882, wash-boards in which the protector has no such elastic or resilient quality, and is not constructed to fold down "Substantially as shown." (p. 211.)

Appeal from a decree of the Circuit Court of the United States for the Eastern District of Pennsylvania, dismissing a suit for infringement of letters patent.

The drawings and specifications of defendant's patent are as follows:

CHARLES H. WILLIAMS, OF CLEVELAND, OHIO.

WASH-BOARD.

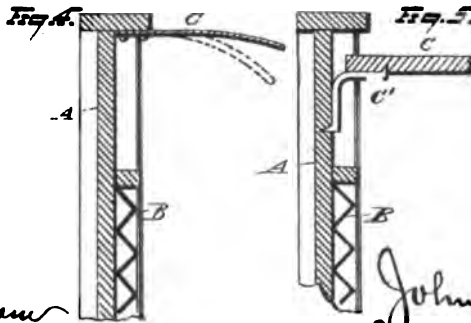
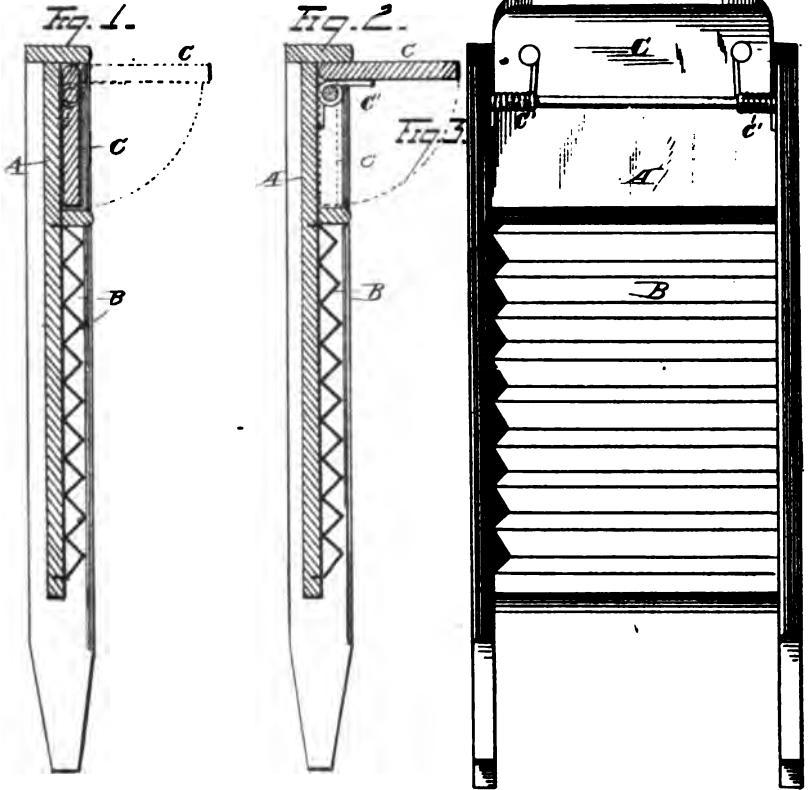
Specification forming part of Letters Patent, No. 255,555, dated March 28, 1882. Application filed February 10, 1882. (Model.)

* See Explanation of Notes, page III.

J. M. GORHAM.
Wash-Board.

No. 223,338.

Patented Jan. 6, 1880.



WITNESSES
E. D. Nottingham
Geo. D. Seymour

INVENTOR
John M. Gorham
R. S. Sargent & Sargent
ATTORNEYS.



Statement of the case.

To all whom it may concern :

Be it known that I, CHARLES H. WILLIAMS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Wash-Boards, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in wash-boards, and more particularly in adapting to them a protector and at the same time a support.

My invention consists in the construction and combinations hereinafter more particularly pointed out in the claims.

Fig. 1 is a side view of the upper end section of a wash-board. Fig. 2 is a central longitudinal vertical section of the same.

A is one of the ordinary legs of a wash-board, and C is the ordinary connecting back-piece or branding-board for strengthening the board and to complete the usual soap-pocket, and D is a section of the board, upon which the corrugated zinc is placed. I construct my board with a cross-strengthening or head piece, B, which I make rounded on the outer surface, and at the upper edge I form a groove or lock, *b*.

To the inner sides of the legs A, near their upper ends, I pivot the arms E E of my protector. These arms E are rounded at their lower ends, and connecting with their upper ends is a rounded supplemental protector, which also forms a support and is provided with means for engaging with the end board, whereby the pieces B and F become locked and a broad comfortable surface is secured. On the lower edge of this protector and cross-piece F, I form a tongue, *e*, so that when the sections F and B are placed in position, as shown in Fig. 1, the tongue and groove *b* and *e* constitute a firm and rigid lock. To permit this—i. e., the protector to be shifted—the lower ends of the arms E E are slotted for a

Statement of the case.

short distance, as shown at *s*, through which a screw, *d*, or a simple headless nail is passed from the inner side.

In order to close the protector into the board or remove it from the position shown in Fig. 1, it is only necessary to raise the tongue *e* from the groove *b* by drawing the protector slightly backward, or until the lower end of the slots comes in contact with the screw or nail *d*, which will then readily permit the protector to be pushed slightly forward and be dropped into its place. I usually attach the arms *E* to the piece *F* by dovetails, but they may be attached in any other way.

By constructing the wash-board as hereinbefore described, I attain many advantages that are not found in other boards and overcome many disadvantages, whereby my protector is not liable to get out of order or become inoperative, and by this construction the cost of the board with this protector is but slightly increased.

The main object of this invention is to form a broad surface for the operator or washer-woman to rest her body upon in the act of washing, which is a great convenience.

By forming the outer portions of the parts *F* and *B* on one and the same arc of a circle, as shown in Fig. 1, the two form one continuous supporting surface, and when locked together become as rigid and firm as though they were one and the same piece.

It will be seen that when the board is placed in proper position in the tub, the rounded portion formed by the parts *B* and *F* is of the right contour in relation to the board and to the stooping or leaning position of the person using it, to give easy and natural support to the body, as well as protection to the same from the splashing of the suds, which latter is the sole office of other protectors.

It will also be observed that as the protector can be folded into the board it takes no additional room in packing, and the space for the soap is not materially lessened, so that the

Statement of the case.

board can be used, whether the protector is desired or not, without hindrance or obstruction.

I am aware that other construction of tongue and groove, or even tenon and mortise, or any ordinary fastening device or lock may be used to connect B and F, or hold them when in position, and I do not limit myself to any particular construction therefore; but I prefer the construction herein shown.

I am aware that it is not new to attach a protector to a wash-board by means of slots and pins, and claim nothing therefor.

What I claim, and desire to secure by letters patent, is—

1st. A wash-board provided with a cross-piece, B, in combination with a removable protector-piece, F, and a locking device, whereby the protector and cross-piece may be brought together edge to edge and locked to form one continuous supporting-surface, as set forth.

2d. A wash-board provided with a cross-piece, B, in combination with a removable protector-piece, F, the cross-piece or protector having interlocking devices on their adjacent edges, whereby the protector may be locked to the cross-piece and the two form one continuous surface, as and for the purpose set forth.

3d. In combination with the cross-piece, B, of a wash-board a removable protector, F, locking devices, substantially as described, for retaining the protector in line with the cross-piece, and the pivoted and slotted arms E E, as set forth.

4th. The combination, with the cross-piece, B, provided with a groove, *b*, of the protector, F, provided with a tongue, *e*, and the slotted and pivoted arms E E, as set forth.

In testimony whereof I hereby affix my signature in presence of two witnesses.

CHARLES H. WILLIAMS.

Witnesses :

JAMES H. MANDEVILLE,

FRED. G. DIETERICH.

Argument of counsel.

The facts are stated in the opinion.

Messrs. GEORGE H. CHRISTY and J. SNOWDEN BELL, for appellants:

The mere making of a model is not a construction and use of an invention, within the meaning of the Act of Congress.

Cox v. Griggs, 2 Fish. Pat. Cas. 174, 176, 177; *Howe v. Underwood*, 1 Fish. Pat. Cas. 160; *Many v. Sizer*, *Id.* 17, 20; *Ransom v. N. Y.*, *Id.* 270.

No mechanic, skilled in the art, would find any difficulty in embodying the invention in a practical, operative and effectual form.

Kneass v. Schuylkill Bank, 1 Robb, Pat. Cas. 310; *Brooks v. Bicknell*, 2 Robb, Pat. Cas. 130; *Doughty v. Day*, 9 Blatch. 263; *Hamilton v. Ives*, 3 Pat. Off. Gaz. 31; *Union Paper Bag Co. v. Nixon*, 4 Pat. Off. Gaz. 32; *Am. Hyde & L. S. & D. M. Co. v. Am. Tool & Mach. Co.*, 4 Fish. Pat. Cas. 304.

Messrs. JAMES PARSONS and FURMAN SHEPPARD, for appellee:

To produce a patentable device, the exercise of invention must be above ordinary mechanical or engineering skill.

Morris v. McMillan, 112 U. S. 244 [15 Am. & Eng. 310]; *Jacobs v. Baker*, 7 Wall. 295 [7 Am. & Eng. 483]; *Stimpson v. Woodman*, 10 Wall. 117 [8 Am. & Eng. 221]; *Pearce v. Mulford*, 102 U. S. 112 [12 Am. & Eng. 495]; *Packing Co. Cases*, 105 U. S. 566 [14 Am. & Eng. 49]; *Hollister v. Benedict & B. Mfg. Co.* 113 U. S. 59 [15 Am. & Eng. 417]; *West. Electric Mfg. Co. v. Ansonia Brass & C. Co.* 114 U. S. 447 [16 Am. & Eng. 94]; *Yale Lock Mfg. Co. v. Greenleaf*, 117 U. S. 554 [16 Am. & Eng. 303].

The omission of one ingredient of a combination claim averts any charge of infringement based on that claim.

Dunbar v. Myers, 94 U. S. 187 [11 Am. & Eng. 59]; *Gage v. Herring*, 107 U. S. 640 [14 Am. & Eng. 454]; *Fay v. Cor-desman*, 109 U. S. 408 [15 Am. & Eng. 1].

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The combination claimed cannot be patentable.

Pickering v. McCullough, 104 U. S. 319 [13 Am. & Eng. 238]; Hailes v. Van Wormer, 20 Wall. 353-375 [9 Am. & Eng. 340]; Hailes v. Albany Stove Co. 123 U. S. 586 [17 Am. & Eng. 336]; Mosler Safe & Lock Co. v. Mosler, 127 U. S. 354-363 [18 Am. & Eng. 560].

A claim cannot be enlarged by the language in other parts of the specification.

Lehigh Valley R. Co. v. Mellon, 104 U. S. 112 [13 Am. & Eng. 200].

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought by the administrators of John H. Gorham, deceased, against Edwin K. Burgess, in the Circuit Court of the United States for the Eastern District of Pennsylvania, to recover for the alleged infringement of letters patent, No. 223,338, granted to John M. Gorham, January 6, 1880, for an improvement in wash-board frames.

The following is a copy of the specification and drawings of the patent:

"To all whom it may concern :

"Be it known that I, John M. Gorham, of Cleveland, in the County of Cuyahoga and State of Ohio, have invented certain new and useful improvements in wash-board frames; and I do hereby declare the following to be a full, clear and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

"My invention relates to wash-boards, particularly to the combination, with a wash-board, of a protector constructed to bend or yield to pressure, and to return to position when said pressure is removed. This protector is to shield the person of the washer from splashing water or suds.

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"Protectors have been heretofore employed in connection with wash-boards, and they have been of but two general types—one wherein the protector is rigid and rigidly attached to the wash-board frame. A protector thus constructed and attached is not capable of yielding or moving from its position, when the body of the operator presses against it; and it is on this account frequently objected to. The second type is when the protector is attached to the wash-board frame by a joint or pivot, and is allowed a swinging movement; but it possesses no elastic or resilient quality or function, and, when moved by pressure, has no power to return again to normal position when said pressure is removed. My invention is designed to overcome the objections and defects presented in these two old types of protectors; and, as said invention broadly comprehends any wash-board protector constructed to bend or yield to pressure and to return to position when said pressure is removed, it is apparent that I am not to be confined to any specific form or mere construction of device, inasmuch as a variety of modified mechanical structures may be adopted in embodying my said invention. I will, however, illustrate and describe one or two effective forms of device according to this invention.

"In the drawings, Fig. 1 illustrates a wash-board and its protector made according to my invention. This figure is in longitudinal vertical section, and it represents the protector as laid down upon the face of the board, as packed for shipment. Fig. 2 is a similar view of the same device, only the protector is shown as freed and sprung out into operative position. Fig. 3 is a front view of the device as shown in Fig. 2. Fig. 4 represents a modified form of my device, wherein the protector, instead of being formed from a rigid piece and elastically pivoted to the frame, as shown in Figs. 1, 2 and 3, is made from a piece of rubber, spring metal, or equivalent material, susceptible of itself yielding and returning to position, and this is rigidly fixed to the wash-board

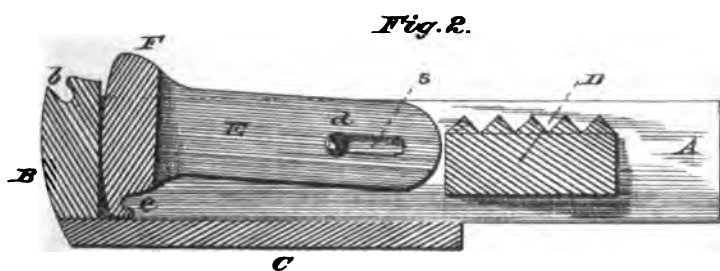
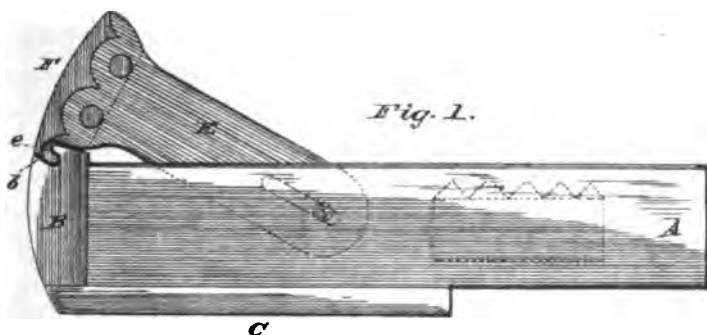
(Model.)

C. H. WILLIAMS.

WASH BOARD.

No. 255,555,

Patented Mar. 28, 1882.



WITNESSES:

Wm. H. Dietrich
P. C. Dietrich

INVENTOR.

Charles H. Williams

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frame, as shown. Fig. 5 shows another modified embodiment of my invention, merely illustrating a different spring-coupler, C', from that shown in Figs. 1, 2 and 3.

"A is the wash-board frame, which may be of any size, description or material. B is the rubbing-surface, which may also be of any character.

"C is the protector, and C' a spring, which may be either a coupler between the protector and the wash-board frame as shown in Fig. 5 of the drawings, or the protector may be pivoted to the frame and the spring C' act to push or pull the protector into the position illustrated in Figs. 2 and 3.

"The construction of the device shown in Fig. 4 I have already sufficiently specified in the preceding explanation of the drawings.

"The operation of my device is readily understood. The spring C', or the elastic character of the thing itself, as shown in Fig. 4, serves always to keep the protector in operative position. (See Figs. 2 and 3). When the body of the operator presses against it, it yields in such a way as at the same time to press snugly against her person, and also to return at all times to position when said pressure is removed. It thus becomes very effective as a protector, while at the same time it is not wearing to the person or clothes of the operator.

"Another peculiar feature of my wash-board is the flat manner in which it can be packed, as shown in Fig. 1 of the drawings. This is a great convenience and advantage in packing for shipment; and, moreover, when thus packed, the protector is itself protected from injury to which it would otherwise be exposed. This is accomplished by locating the protector, as shown in Figs. 1, 2 and 3 of the drawings, below the crown-piece and between the side pieces of the frame."

The claims of the patent are three in number, as follows:

"1. In combination with a wash-board, a protector constructed substantially as described, so as to yield to pressure

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and to return to position when said pressure is relieved, substantially as and for the purpose shown. 2. The combination, with a wash-board, of a protector and a spring, said spring interposed between the wash-board and protector, and constructed to operate in retaining said protector in its open position and to return it to that position when removed therefrom. 3. In combination with a wash-board, a protector located below the crown-piece and between the side pieces of the wash-board frame, and constructed to fold down into or upon said wash-board even with or below the general plane of said wash-board frame, substantially as and for the purpose shown." Only claim 3 is alleged to have been infringed.

The defences set up were want of novelty and non-infringement. Several prior patents were introduced in evidence, as bearing upon the question of the proper construction of claim 3, and upon the question of infringement. They are No. 8161, to William T. Barnes, June 17, 1851; No. 127,325, to John Epeneter and Bernhardt Grahl, May 28, 1872; No. 146,433, to James A. Cole, January 18, 1874; No. 150,315, to Anna Frike, April 28, 1874; and No. 222,846 to Wyatt M. Stevens, December 23, 1879. The Circuit Court dismissed the bill and the plaintiffs have appealed.

The specification of the Gorham patent clearly shows that the protector whose combination with a wash-board is the subject of the invention, is a protector constructed to bend or yield to pressure, and to return to its position when such pressure is removed, in contradistinction to a protector which is rigid and is rigidly attached to the wash-board frame; and also in contradistinction to a protector which is attached to the wash-board frame by a joint or pivot, and is allowed a swinging movement, but possesses no elastic or resilient function, and when moved by pressure has no power to return again to its normal position when such pressure is removed. The specification states that the invention of Gorham is designed to overcome the defects

129 U. S. 22-24.

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presented in those two old types of protectors. The invention does not comprehend a protector which is not constructed so as to bend or yield to pressure, and to return to its position when such pressure is removed. The description and drawings of the Gorham protector are limited to such a construction, and do not show or indicate any other.

The operation of the device is stated in the specification to be such that the spring or the elastic character of the protector itself serves always to keep the protector in operative position, because it yields to pressure against it in such a way as always to press snugly against the person, and to return at all times to position when such pressure is removed. This feature of the protector is not claimed to have been infringed by the defendant. The defendant's protector, constructed in accordance with the description contained in letters patent, No. 255,555, granted to Charles H. Williams, March 28, 1882, has no spring and no elastic or resilient quality, does not yield to pressure, and has no capacity of returning automatically to its normal position.

In the defendant's structure, the ordinary cap piece of the wash-board has a rounded exterior surface, and its inner surface performs the function of a protector. Upon the upper edge of such cap piece is mounted a supplemental protector, the two parts being locked rigidly together by a tongue-and-groove joint. From the ends of the supplemental protector are extended rigid arms, which are slotted and connected to the side pieces of the frame by means of pins, one of which passes through each slot. By removing the supplemental protector from the cap piece, it can be placed between the side pieces of the frame, so as to stand edgewise therein, by drawing it slightly backward, by then raising it slightly, by then advancing it to the front, and by then dropping it and placing it edgewise within the frame. In this latter position, the structure is adapted for packing. Not only is the defendant's protector without any yielding or resilient function, but it is not pivoted after the manner of the Gorham pro-

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tector, nor does it fold down in the manner of the Gorham protector, in the sense of the words "fold-down," as used in claim 3 of the Gorham patent.

The contention of the plaintiff is that claim 3 of the patent does not require, as an element of the combination covered by it, that the protector should have any yielding, elastic or resilient function, or should be accompanied by a spring; but that it is sufficient if, by any mechanism, it can be so disposed of as to be packed away for convenience in shipment, or for other purposes, in a flat manner, in the vacant space in which it is packed; and that, as the defendant's protector is to a large extent packed away in the same vacant space, claim 3 is infringed. It may be questionable whether, if the claim were to be construed thus broadly, it would not be for merely a new use of a device before used in many things besides wash-boards.

But, in view of the state of the art, as shown by the patents above referred to, and in view of the course of proceeding in the Patent Office on the application for the Gorham patent, we are of opinion that claim 3 of that patent cannot be so construed as to cover a protector which does not have the yielding, elastic or resilient function of the Gorham protector, and is not accompanied by a spring or constructed substantially according to the description in the Gorham specification. Gorham evidently had no idea of such a construction as that of the Williams patent, found in the defendant's wash-board; and no person could, by following the description in the Gorham specification, arrive at the defendant's structure.

Claim 3 of the Gorham patent requires that the protector shall be "constructed to fold down," "substantially as" "shown." The defendant's protector is not constructed to fold down in the manner of the Gorham protector, and is not constructed substantially as shown in the Gorham specification.

The decree of the Circuit Court is affirmed.

Notes and citations.**Notes :**

2. "Substantially as described" effect on construction of claim :

Winans v. Denmead, 15 How. 330 [6 Am. & Eng. 107].
Seymour v. McCormick, 19 How. 96 [6 Am. & Eng. 282].
Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290].
Klein v. Russell, 19 Wall. 433 [9 Am. & Eng. 244].
Hailes v. Van Wormer, 20 Wall. 353 [9 Am. & Eng. 340].
Corn Planter Patent, 23 Wall. 181 [10 Am. & Eng. 1].
Garratt v. Seibert, Bk. 21, L. ed. 956 [12 Am. & Eng. 187].
Railway Co. v. Nat. Car Brake Co., 110 U. S. 229 [15 Am. & Eng. 124].
Brown v. Davis, 116 U. S. 237 [16 Am. & Eng. 212].
Matthews v. Iron Clad Mfg. Co. 124 U. S. 347 [17 Am. & Eng. 455].
Weir v. Morden, 125 U. S. 98 [17 Am. & Eng. 530].
Telephone Cases, 126 U. S. 1 [18 Am. & Eng. 1].
Consolidated Roller Mill Co. v. Walker, 138 U. S. 124.

Patents in suit :

No. 223,338. J. M. Gorham. January 6, 1880. Wash-Board Frames.
No. 255,555. C. H. Williams. March 27, 1882. Wash-Board.

OTHER SUITS ON SAME PATENT :

Sargent v. Jenkins, 1889. 38 Fed. Rep. 585 ; 47 O. G. 404.

Cited :

IN TEXT BOOKS :

Walker on Patents, 2d ed., 1889, p. 273.

Argument of counsel.

ROSENWASSER v. SPIETH.*†

129 U. S. 47-51. October Term, 1888.

[Bk. 32, L. ed. 628.]

Affirming *Rosenwasser v. Berry*, 22 Fed. Rep. 841.

Argued December 11, 12, 1888. Decided January 14, 1889.

Patented invention wanting in novelty. Invention.

1. Letters Patent, No. 256,504, N. Rosenwasser, April 18, 1882. Percolator, *held*, anticipated by a description of the Real press in a prior German publication and also doubted whether it would involve invention even if it were new. (p. 221.)

Appeal from a decree of the Circuit Court of the United States for the District of Maine, that the plaintiff's letters patent were invalid, and dismissing a suit for their infringement.

Reported below, 22 Fed. Rep. 841.

The facts are stated in the opinion.

Mr. WILLIAM HENRY CLIFFORD, for appellants:

The respondent must be accountable to us for the use of that of his device which is our invention.

Lee v. Blandy, 2 Fish. Pat. Cas. 93; *Howes v. Nute*, 4 Cliff. 173.

Necessary parts, left out of the claim, if well described, are supplied by legal construction.

Kittle v. Merriam, 2 Curt. 479; *Gathwright v. Callaway Co.* 10 Mo. 665; *Richardson's App.* 7 Pat. Off. Gaz. 1053; *Wheeler v. Clipper Mower & Reaper Co.* 2 Pat. Off. Gaz. 442.

* See Explanation of Notes, page III.

† The correct title of this case is that given in Bk. 32, L. ed. 628, i. e., *NATHAN ROSENWASSER AND JENNIE A. SPIETH, APPELLANTS v. JOHN BERRY*.

Argument of counsel.

A description in a published work, to anticipate a patent, must be full, clear and exact, so as to reach the clearness of a patent specification.

Seymour v. Osborne, 11 Wall. 555 [8 Am. & Eng. 290]; *Cohn v. U. S. Corset Co.* 93 U. S. 370 [10 Am. & Eng. 473].

The translation must be free from doubt, and the burden of proof is on the respondent.

Signall v. Harvey, 5 Ban. & Ard. 688; *Colgate v. Gold & S. Tel. Co.* 4 Ban. & Ard. 415.

The prior publication must show the same organized machine as that in complainant's patent, operating in the same way.

Clark P. S. & F. Regulator Co. v. Copeland, 2 Fish. Pat. Cas. 221.

Where there are two translations, that which is most literal will be taken.

White v. Allen, 2 Cliff. 244.

Alleged prior use must be proved beyond a reasonable doubt.

Hawes v. Antisdel, 8 Pat. Off. Gaz. 685; *Wood v. Cleveland Rolling Mill Co.* 4 Fish. Pat. Cas. 550-560; *Parham v. Am. Buttonhole, O. & S. Mach. Co.* *Id.* 468-482; *Sayles v. Chicago & N. W. R. Co.* *Id.* 584-590; *Crouch v. Speer*, 6 Pat. Off. Gaz. 187; *Roemer v. Simon*, 5 Pat. Off. Gaz. 555; *Coffin v. Ogden*, 18 Wall. 120 [9 Am. & Eng. 125]; *Campbell v. James*, 17 Blatch. 42.

Mr. WILBUR F. LUNT, for appellee:

Invention must be new and useful. If it is a machine it must be operative, and accomplish the end practically and usefully in the way pointed out.

Parkhurst v. Kinsman, 1 Blatch. 497.

There can be no invention in a simple enlargement of the orifice for the discharge of the percolate.

Vinton v. Hamilton, 104 U. S. 491 [13 Am. & Eng. 394].

The combination and device which the complainant Rosen-

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wasser has patented was patented or described in some printed publication prior to his supposed invention or discovery.

Plimpton v. Malcomson, L. R. 3 Ch. Div. 531.

Mr. Justice GRAY, delivered the opinion of the Court:

This is a bill in equity for the infringement of letters patent granted April 18, 1882, to Nathan Rosenwasser for improvements in percolators, with the following specification and claim:

"My invention relates to percolating apparatus to be employed for filtering purposes, or for making fluid extracts or decoctions, and it consists in a device constructed and adapted to operate substantially in the manner hereinafter specified.

"In the drawings, Fig. 1 represents my device in longitudinal section, and Fig. 2 shows the application of said device when used as a filter or in making fluid extracts.

"A is the main body of my percolator. B is a constricted inlet. C is the enlarged open end, which serves the double purpose of a discharge or outlet, and of an opening through which the percolator is charged with filtering substance when the device is to be used as a filter, or with any drug from which an extract is to be made. D is a perforated plate. This plate may, if desired, be replaced by any porous diaphragm or interposing substance, such as filter paper, cloth, pumice, or the like. This is to prevent the drug from escaping from the percolator during its use, and it is to be secured in position by suitable means. E represents the drug from which an extract is to be made; or if the device is to be used as a filter, then E represents charcoal, sand, or any suitable filtering material.

"I will describe my apparatus as employed in making fluid extracts. The container A is charged with any drug or substance, E, from which an extract is to be made. The drug E is charged into the container A through the enlarged mouth C. Now, by the ordinary process and mechanism for making fluid extracts, it has heretofore been the practice to

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charge the menstruum into the large mouth C; but this method made it impracticable to obtain any increased or variable pressure upon the menstruum, unless a cap piece were fitted over the enlarged mouth C, and a tube or its equivalent attached, and connected either to an elevated reservoir containing the menstruum, or else some special pressure apparatus connected with said tube. All this in practice is impracticable, but by the employment of my device and method it is a very easy matter to charge the container A, and by applying the menstruum in exactly an opposite manner from that heretofore adopted, viz.: to the end of the container A, opposite the charging mouth C, to exert any desired pressure upon the menstruum. Fig. 2 of the drawings illustrates my method and mechanism, which consists, after the container, A, is charged in the usual manner through its enlarged mouth C, as already specified, in inverting the percolator, attaching a flexible or other tube, F, to the constricted mouth B, and applying the menstruum through said tube from an elevated reservoir G. When thus used, the enlarged mouth C, becomes the ultimate discharge, which has never before, to my knowledge, been true in any method heretofore known or practiced. By elevating the reservoir G more or less, a greater or lighter pressure is exerted by the menstruum, and it is therefore driven through the drug more or less forcibly and rapidly. This pressure, as may readily be seen, can be nicely adjusted and varied at pleasure to suit the requirements of any case. A stop-cock, H, may be used to govern the quantity of the menstruum admitted to the percolator A.

"What I claim is: the combination, with a vessel, G, and adjustable tube, F, of a percolator, A, having a large filling and discharge orifice at its lower end, and a restricted opening, B, at its upper end, with which connects the lower end of the adjustable tube or pipe, F, substantially as set forth."

The description of the percolator, and of the mode of using it to make fluid extracts or decoctions of drugs, amounts to

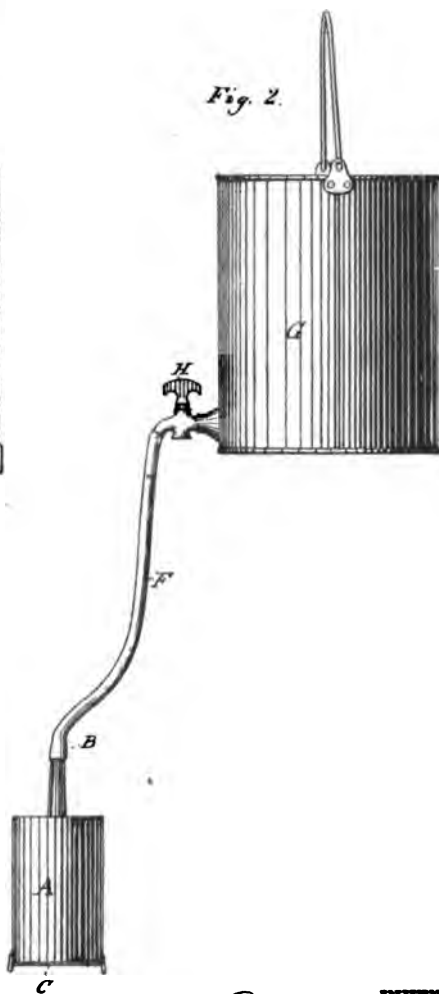
(No Model.)

N. ROSENWASSER.

PERCOLATOR.

No. 256,504.

Patented Apr. 18, 1882.



WITNESSES

Ch. Engel
Jas. Carroll Jr

INVENTOR

Nathan Rosenwasser
By Leggett & Leggett
ATTORNEYS



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this: The percolator is a cylinder wholly open at the lower end, and with a cover at the upper end, having a small opening, attached to which is a flexible or adjustable tube leading from a reservoir of the liquid to be used for steeping the drug. The percolator is turned bottom up while the drug is put in, and a perforated or porous diaphragm inserted to hold the drug in place. It is then turned bottom down again. The pressure of the liquid, and consequently the quickness of its passage through the drug, are increased or diminished by elevating or lowering the reservoir, or by turning a stop-cock in the tube; and the extract is discharged through the bottom of the percolator into a vessel placed below.

The novelties suggested consist in having one end of the percolator open, serving both to receive the drug and to discharge the extract; in turning the percolator bottom up to put in the drug, and bottom down to let the extract drip out; in having a perforated or porous diaphragm to hold the drug in place; and in regulating the pressure of the liquid by means of a tube from the reservoir to the small opening in the covered end of the percolator.

But, passing over the difficulty that the diaphragm is not claimed as part of the combination patented, neither the percolator open at one end, the diaphragm, the inversion of the percolator, the insertion of the tube in the small opening in the covered end, nor the making that tube flexible and with a stop-cock, is new. All those elements appear in the Real press, as modified by Beindorf, described in Geiger's "Handbuch der Pharmacie," published in 1830 at Stuttgart in Germany, which is an exhibit in the case, and a translation of the material parts of which (Vol. 1, pp. 157-160), verified by the oath of a witness for the defendant, and included in the record, appears, though not quite grammatical, to be substantially accurate, notwithstanding the opposing testimony introduced by the plaintiff to impugn its correctness.

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It will be sufficient to quote from that translation the following passages:* "The Real press consists principally of a hollow cylinder, which contains the powdered substance to be exhausted between two perforated plates, tightly packed, so that the substance cannot move to [in] either direction. If the cylinder is open at both ends, a cover is fitted air tight at one end, having a hole in the center, into which a long tube is fitted, also air tight. Between the cover and the perforated plate mentioned some space must remain. In extracting, the cylinder is placed vertical [upright], so that a vessel for gathering the liquid may be placed underneath."

* "Die *Real'sche Presse* besteht der Hauptsache nach aus einem hohlen Cylinder, in welchem die auszuziehende Substanz im gepulverten Zustande zwischen 2 siebförmig durchlöchernten Platten fest gepackt enthalten ist, so dass sie nach keiner Seite hin weichen kann. Wenn der Cylinder an beiden enden offen ist, so wird an einem Ende ein Deckel luftdicht aufgepasst, welcher in der Mitte ein Loch hat, worein eine hohe Röhre ebenfalls luftdicht gesteckt wird. Zwischen dem Deckel und der obern siebförmigen Platte muss etwas Raum bleiben. Beim Extrahiren wird der Cylinder aufrecht festgestellt, so dass ein Gefäss zum Aufsameln der Flüssigkeit untergestellt werden kann." "Eine sehr zweckmässige Abänderung der Real'schen Presse hat *Beindorf* vorgenommen. Der Cylinder wird in einen Stuhl gepasst, dessen Deckel beweglich ist, so dass durch Umdrehen desselben die Presse gefühlt und mit dem Rohr verbunden werden kann." "Der gefühlte, mit dem Boden nach oben gerichtete Cylinder wird auf einen Stuhl gestellt, der in der Mitte ein Loch hat, in welches derselbe passt und mit seinem Wulste aufliegt." "Den obern leeren Raum füllt man mit der auszuziehenden Flüssigkeiten an, und passt in die Oeffnung des Bodens eine Röhre, sie kann von Weissblech, Glas, Holz, oder ein lederner Schlauch u. s. w. seyn." "Neben das obere Ende der Röhre stelle man ein Gefäss mit der Anziehungsflüssigkeit, so dass der Spiegel der Flüssigkeit etwas niedriger als das Ende der Röhre steht. Man senke jetzt einen Heber in die Flüssigkeit und in die Röhre, ziehe durch die Röhre mit dem Munde etwas Luft an, indem man mit den Lippen, dem Daumen, und Zeigefinger das Eindringen derselben von aussen zu hindern strebt; die Flüssigkeit wird sich heben und durch den Heber in die Röhre auslaufen, diese wird selbst damit angefüllt, und so wirkt die Flüssigkeit drückened und lösend auf die Substanz. Sie durchdringt sie und kommt, mit extractiven Theilen beladen, anfangs oft von Syrupsdicke, vollkommen klar hervor." "Um die Wirkung nach Belieben aufhören zu machen, bringt man einen Hahn an die Röhre, den man schliesst, oder man verschliesst nach weggenommenem Heber das obere Ende der Röhre."

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"A very practical change in the construction of the Real press has been introduced by Beindorf. The cylinder is fitted into a chair [frame], the cover or seat of which is movable, so that by turning [inverting] the same the press may be filled and connected with the tube." "The filled cylinder, turned bottom up, is placed upon a chair [frame] having a hole in the middle, in which the cylinder fits and around which he [it] rests." In the opening in the bottom, a tube is fitted, which may be made of tinned iron [tin plate], glass, wood, leather." etc. "Near the upper end of the tube is placed a vessel containing the menstruum [liquid solvent], the surface of which must be somewhat lower than the end of the tube. A syphon is now introduced into the liquid and in the tube, air sucked through the tube, so that the liquid will commence to flow through the syphon into the tube, which is thereby filled. The column of menstruum [liquid] thus obtained acts pressing and dissolving upon the substance to be extracted. It penetrates it, and arrives, laden with the soluble matter contained in the substance, at the lower end of the apparatus, often in a syrupy consistence." "In order to control the apparatus, stop or continue the operation, the tube is provided with a cock which may be closed if necessary, or the upper end of tube may be closed after removing the syphon."

This Court concurs in opinion with the Circuit Judge that the plaintiff's contrivance is not new, and, that if it were new, there would be grave doubt whether it involved any invention, 22 Fed. Rep. 841. As the plaintiff's contrivance had been anticipated in the German publication half a century before, it is unnecessary to decide whether, if new, it would have been patentable.

Decree affirmed.

Notes and citations.

Patent in suit :

No. 256,504. N. Rosenwasser, April 18, 1882. Percolator.

OTHER SUITS ON SAME PATENT:

Rosenwasser v. Berry, 1885. 22 Fed. Rep. 841.

Cited :

IN TEXT BOOKS :

Walker on Patents, 2d ed., 1889. p. 46.

[illegible]

Argument of counsel.

ROBERT H. ANDERSON, APPELLANT, v. HENRY T. MILLER ET AL, PARTNERS UNDER THE FIRM NAME OF H. T. MILLER & CO.*

129 U. S. 70-73. October Term, 1888.

[Bk. 32, L. ed. 635; 46 O. G. 448.]

Argued December 19, 1888. Decided January 14, 1889.

Statutory notice. Special defences. That which is prior to the invention does not infringe.

1. Where it was contended that the answer did not contain a sufficient notice under the statute of the defence of want of novelty and two years' public use, in that it did not state the names and residences of the persons by whom and where it was used, *held* that the object of this statutory requirement is to apprise the plaintiff of the nature of the evidence which he must be ready to meet at the trial, and that this object was substantially fully accomplished by the pleadings in this case. (p. 228.)
2. Letters patent, No. 265,733, granted October 10, 1882, to Robert H. Anderson, for an Improvement in Drawers, not infringed by an article manufactured by the appellees for more than two years prior to the appellant's application for a patent. The question raised whether the patented device involved invention, but not considered. (p. 228.)

Appeal from a decree of the Circuit Court of the United States for the Eastern District of Virginia, dismissing a suit in equity for an infringement of letters patent, No. 265,733, granted to Robert H. Anderson, October 10, 1882, for an improvement in drawers.

The facts are stated in the opinion.

Mr. CHARLES S. WHITMAN for appellant:

By referring to the answer (printed Record, page 9), there is not statutory notice of want of novelty, or of two years,

* See Explanation of Notes, page III.

Argument of counsel.

public use prior to the filing of the application. It does not give the names and residences of the persons alleged to have had the prior knowledge of the thing patented, or where or by whom it was used.

The decisions of this Court upon the subject have been uniform.

Evans v. Eaton, 3 Wheat. 454 [4 Am. & Eng. 16]; *Silsby v. Foote*, 14 How. 218 [5 Am. & Eng. 411]; *Philadelphia & Trenton R. R. Co. v. Stimpson*, 14 Pet. 448 [4 Am. & Eng. 324]; *Agawam Co. v. Jordan*, 7 Wall. 583 [8 Am. & Eng. 24]; *Teese v. Huntingdon*, 23 How. 10 [7 Am. & Eng. 72]; *Blanchard v. Putnam*, 8 Wall. 420 [8 Am. & Eng. 107]; *Wilton v. Railroad*, 1 Wall. 195.

The testimony is conflicting and irreconcilable.

As was said by Mr. Justice Cox in the case of *Ernest v. Buffalo Lubricating Oil Co.*, 20 Fed. Rep. 848: "The evidence of prior use is vague and indefinite; it is not of that high character which convinces the Court beyond a reasonable doubt. Proof which does this is always necessary."

Pitts v. Hall, 2 Blatch. 229; *Boyd v. Cherry*, 4 McC. 70; *Graham v. McCormick*, 10 Biss. 39; *Campbell v. James*, 17 Blatch. 42; *Washburn & Moen Mfg. Co. v. Haish*, 10 Biss. 65; *Telephone Cases*, 126 U. S. 1 [18 Am. & Eng. 1].

Mr. Jno. S. WISE for appellees:

One averment in the answer was plain and distinct—could not have been made plainer—viz.: that Henry T. Miller and Henry T. Miller & Co. "have hitherto continuously for over five years manufactured the identical re-enforced drawers filed as Exhibit A, and that for over four years prior to the application for the said patent they used and sold re-enforced drawers of the pattern and design of those now on file as Exhibit A, and none others."

Could the English language make an issue plainer? The complainant produces drawers manufactured by the defendants, and says: "These were made in Richmond, Va., by

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H. T. Miller & Co., and infringe my patent." The defendants say: "Yes, we made them, and we have made them for many years before your patent was applied for or issued, specifying how long, and your invention is therefore not novel."

The citations from *Silby v. Foote*, 14 How. 219 [5 Am. & Eng. 411]; *Philadelphia & Trenton R. R. Co. v. Stimpson*, 14 Pet. 448 [4 Am. & Eng. 324]; and *Agawam Co. v. Jordan*, 7 Wall. 583 [8 Am. & Eng. 24], speak of the necessity of particular notice, so as to prevent *surprise at trial* at law.

It is true that in *Teese v. Huntingdon*, 23 How. 2 [7 Am. & Eng. 72], it was said the defendant must give complainant *substantially* the same information in his answer.

That rule applying, what difference does it make how vague our allusions to other defences were when our plea of our own prior use was so plain and distinct, and when all the testimony taken related to that question and none other, and the case was argued and decided on that alone?

Mr. Justice LAMAR delivered the opinion of the Court.

This is a suit in equity, brought in the Circuit Court of the United States for the Eastern District of Virginia, by the appellant against the appellees, founded on an alleged infringement by them of letters patent, No. 265,733, granted to appellant, October 10, 1882, upon an application filed June 24, 1882, for an improvement in drawers.

The alleged infringement consisted in appellees placing on drawers manufactured by them a patch extending down the front and lapping the seam of the crotch by at least half an inch, which process of re-enforcing the garment, it was alleged, was the invention of the appellant.

The bill avers that "The defendants, Henry T. Miller and William Mitchell, both of the City of Richmond, in the County of Henrico and State of Virginia, and citizens of the said State of Virginia, constituting the firm of Henry T. Miller & Co., doing business at Richmond, in the county,

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State, and district aforesaid . . . are now using said patented improvements, or improvements in some parts thereof, substantially the same in construction and operation as in the letters patent mentioned, and, in violation of his rights, have made, used, and vended within the Eastern District of Virginia . . . large quantities of drawers described and claimed in the letters patent aforesaid," etc.

The answer of the defendants, in their own separate names, with the firm name, precisely as they are stated by the bill, in response to complainant's interrogatories, admits that they are residents of Richmond, Virginia, and engaged in the business of the manufacture and vending of drawers for the clothing trade in that city.

The averments of the answer, material to this inquiry, are, "that drawers, as re-enforced as described in letters patent of plaintiff, had been made and in public use and on sale by sundry and divers persons for many years prior to plaintiff's application;" that they, the defendants, "had been manufacturing one particular kind, and only one particular kind, of re-enforced drawers for more than five years hitherto continuously, a specimen of which drawers, manufactured by them, is filed as 'Exhibit A,' etc., and that these are the only kind of re-enforced drawers that have been manufactured by them or either of them during the last five years;" and that, "even if the drawers manufactured by them are either identically or substantially the same as those manufactured by the complainant, he is entitled to no relief whatever against them, because these respondents are prepared to prove that Henry T. Miller & Co. and Henry T. Miller have hitherto continuously for over five years manufactured the identical re-enforced drawers filed as 'Exhibit A,' and that for over four years prior to the application for said patent they used and sold re-enforced drawers of the pattern and design of those now filed as 'Exhibit A,' and none other."

The Circuit Court dismissed the bill, and an appeal from that decree of dismissal brings the case here.

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It is contended by the appellant that the answer of the defendants below did not contain a sufficient notice, under the statute, of the defence of want of novelty and two years' public use, in that it did not state the names and places of residence of the persons by whom and where it was used. The object of this statutory requirement is to apprise the plaintiff of the nature of the evidence which he must be ready to meet at the trial. This object is substantially and fully accomplished by the pleadings in this case, and we decline to disturb the action of the Court below overruling the motion made at the hearing to strike out the testimony of the witnesses for the defence, who testified to the prior use of the patented article.

We do not deem it necessary to consider the question whether the patent of the appellant is for a new and useful invention within the meaning of section 4886 *et seq.*, R. S., inasmuch as it is the opinion of this Court that there has been no infringement of it in this case by the appellees. It is satisfactorily shown by the evidence in the record that for more than two years prior to the application for the patent in question the appellees had been manufacturing at their place of business at Richmond, Virginia, garments identical in pattern with those that are now alleged to infringe appellant's patent.

The decree of the Circuit Court is affirmed.

129 U. S. 72-73.

Notes :

1. Definiteness of notice of special matter :

Evans v. Eaton, 3 Wheat. 454 [4 Am. & Eng. 16].

Silsby v. Foot, 14 How. 218 [5 Am. & Eng. 411.]

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483].

Phillips v. Page, 24 How. 164 [7 Am. & Eng. 97].

Teese v. Huntingdon, 28 How. 2 [7 Am. & Eng. 72].

Agawam Co. v. Jordan, 7 Wall. 583 [8 Am. & Eng. 24].

Wise v. Allis, 9 Wall. 737 [8 Am. & Eng. 143].

Notes and citations.

Railroad Co. v. Dubois, 12 Wall. 47 [8 Am. & Eng. 438].

Roemer v. Simon, 95 U. S. 214 [11 Am. & Eng. 348].

Bates v. Coe, 98 U. S. 31 [12 Am. & Eng. 150].

Craig v. Smith 100 U. S. 226 [12 Am. & Eng. 301].

Planing Mch. Co. v. Keith, 101 U. S. 479 [12 Am. & Eng. 404.]

Loom Co. v. Higgins, 105 U. S. 580 [14 Am. & Eng. 70].

2. The Court cannot overlook the question of patentability.

Hill v. Wooster, 132 U. S. 693 (and see notes thereunder).

Patent in suit:

No. 265,733. R. H. Anderson. October 10, 1882. Improvement in Drawers.

Syllabus.

THE BATE REFRIGERATING COMPANY, APPELLANT, v. GEORGE H. HAMMOND AND COMPANY.*

129 U. S. 151-170. October Term, 1888.

[Bk. 32, L. ed. 645; 46 O. G. 688.]

Argued January 2, 3, 4, 1889. Decided January 21, 1889.

R. S. Sec. 4887. Effect of prior foreign patent on term of domestic patent. Renewal of foreign patent. Particular patent sustained.

1. The question raised but not determined, whether the words in R. S. Sec. 4887 "first patented or caused to be patented in a foreign country," mean "first patented or caused to be patented" before the issuing, granting or date of the United States patent, or whether they mean "first patented or caused to be patented" before the date of the application for the United States patent. (p. 243.)
2. Letters Patent, No. 197,314, granted to John J. Bate, November 20, 1877, for preserving meats during transportation and storage, for the term of seventeen years, did not expire with the term of the first Canadian patent obtained for five years, but continued in force till the end of the extended term of fifteen years, to wit: January 9, 1882, said Canadian patent having never ceased to exist, but having been in force continuously from January 9, 1877. (p. 245.)
3. The provisions of the Act of 1870, Sec. 25, and of the Revised Statutes, Sec. 4887, mean that the United States patent shall not expire so long as the foreign patent continues to exist, not extending beyond seventeen years from the date of the United States patent, but shall continue in force, though not longer than seventeen years from its date, so long as the foreign patent continues to exist. (p. 246.)
4. Under R. S. Sec. 4887, although the United States patent may on its face run for seventeen years from its date, it is to be so limited by the Courts, as a matter to be adjudicated

* See Explanation of Notes, page III.

Syllabus.

on evidence *in pais*, as to expire at the same time with the foreign patent, not running in any case more than seventeen years ; but, subject to the latter limitation, it is to be in force as long as the foreign patent is in force. (p. 246.)

5. Where the Canadian statute under which the extensions of the Canadian patent were granted, was in force when the United States patent was issued, and also when that patent was applied for, and where, by the Canadian statute, the extension of the patent for Canada was a matter entirely of right, at the option of the patentee, on his payment of a required fee, and where the fifteen years term of the Canadian patent has been continuous and without interruption, the United States patent does not expire before the end of the fifteen years duration of the Canadian patent. (p. 247.)
6. The time of the expiration of the foreign patent may be shown by evidence, *in pais*, whether it be the record of the foreign patent itself showing its duration, or other proper evidence. (p. 248.)
7. While it may be proper in a case where the date of a foreign patent issued prior to the granting of a United States patent to the same patentee for the same invention is made known to the Patent Office prior to the granting of the United States patent, to insert in that patent a statement of the limitation of its duration, in accordance with the duration of the foreign patent, it does not affect the validity of the United States patent if such limitation is not contained on its face. (p. 249.)

[Cited in the opinion of the court.]

- Bate Refrigerating Co. v. Gillett, 31 Fed. Rep. 809. pp. 243, 247.
 Henry v. Providence Tool Company, 3 Ban. & Ard. 501. p. 246.
 Reissner v. Sharp, 16 Blatch. 383. p. 247.
 Bate Refrigerating Co. v. Gillett, 13 Fed. Rep. 553. p. 247.
 O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483]. p. 248.
 Smith v. Ely, 15 How. 137 [6 Am. & Eng. 1]. p. 248.
 Canan v. Pound Manufacturing Company, 23 Blatch. 173. p. 248.

Appeal from a decree of the Circuit Court of the United States for the district of Massachusetts, dismissing a suit in

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equity brought by the appellant for the infringement of letters patent, No. 197,314, granted to John Bate, November 20, 1877, for the term of seventeen years from that day on an application filed December 1, 1876, for an improvement in the processes for preserving meats.

The facts are stated in the opinion.

Messrs. WM. M. EVARTS, RICHARD N. DYER, PAUL H. BATE, JOHN LOWELL, and C. A. SEWARD, for appellant:

The correct construction of section 4887 of the United States Revised Statutes is not clear.

Bate Refrigerating Co. v. Gillett, 31 Fed. Rep. 814; *Gramme Electrical Co. v. Arnoux & H. Electric Co.*, 17 Fed. Rep. 840; *Andrews v. Hovey*, 124 U. S. 716 [17 Am. & Eng. 477].

The date of the application has been judicially decided to be *prima facie* the date of the invention.

Wing v. Richardson, 2 Fish. Pat. Cas. 536, *Jones v. Sewall*, 6 Fish. Pat. Cas. 358; *Dane v. Chicago Mfg. Co.*, 2 Pat. Off. Gaz. 677; *Packard v. Sandford*, 16 Pat. Off. Gaz. 1182; *Allen v. N. Y.*, 17 Pat. Off. Gaz. 1281.

The Act of 1870 was a revision of all previous laws relating to patents and declared that the American patent should expire at the same time with the foreign patent.

Siemen v. Sellers, 123 U. S. 276 [17 Am. & Eng. 284]; *O'Reilly v. Morse*, 15 How. 62 [5 Am. & Eng. 483].

The contemporaneous construction of section 4887 by the profession and the Patent Office was in accordance with the opinion of Mr. Justice GRIER in *O'Reilly v. Morse*.

Patent Office Rule, 1871, 1878, § 39; *U. S. v. Marble*, 2 Mackey 12; *ex parte Mann*, 17 Pat. Off. Gaz. 330.

If a literal construction of statutory language is opposed to the legislative intention, as evidenced by the full statute, such construction will not be allowed to prevail.

Caledonian R. Co. v. North British R. Co. L. R., 6 App. Cas. 122; *Frame v. Clement*, 44 L. T. N. S. 399; *Nuth v.*

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Tamplin, L. R. 8 Q. B. Div. 258; U. S. v. Kirby, 7 Wall. 482; Isherwood v. Oldknow, 3 Maule & S. 397.

Communis opinio is evidence of what the law is.

Chestnut v. Shane, 16 Ohio, 607; McKeen v. Delancy, 5 Cranch. 29; Maher v. State, 1 Port. (Ala.) 265, 26 Am. Dec. 379; Troup v. Haight, 1 Hopk. 267; Com. v. Posey, 4 Call. 109, 2 Am. Dec. 560; Jackson v. Gilchrist, 15 Johns. 89.

Long established construction of a statute, by the officers who execute it, ought to have the force of judicial determination.

U. S. v. Hill, 120 U. S. 183 [16 Am. & Eng. 51]; U. S. v. Philbrick, 120 U. S. 59; Rutherford v. Greene, 2 Wheat. 203; Bruce v. Schuyler, 9 Ill. 221, 46 Am. Dec. 447.

Change of phraseology in the revision of the statutes *in pari materia* is without legal significance.

Taylor v. Delancy, 2 Cai. Cas. 150; Case of Yates, 4 Johns. 358; Theriat v. Hart, 2 Hill, 380; Goodell v. Jackson, 20 Johns. 722; Croswell v. Crane, 7 Barb. 195; Myer v. West. Car Co., 102 U. S. 11; U. S. v. Bowen, 100 U. S. 508; Hughes v. Farrar, 45 Maine 72; Burnham v. Stevens. 33 N. H. 247; Overfield v. Sutton, 1 Met. (Ky.) 621; Butterworth v. U. S. 112 U. S. 58 [15 Am. & Eng. 282].

There was intention on the part of Congress to diminish by the Act of 1870 the rights of an American inventor as they previously existed.

Coryton, Patents, ed. 1855; Reg. v. Watford, 9 Q. B. 626; U. S. v. Union Pac. R. Co., 91 U. S. 72; Reg. v. Most, L. R. 7 Q. B. Div. 251.

An inventor's rights for all purposes of his protection accrue on the filing of his application.

Jones v. Sewell, 6 Fish. Pat. Cas. 356; Adams v. Jones, 1 Fish. Pat. Cas. 530; Root v. Ball, 4 McLean, 177.

Section 4887 cannot properly be construed as meaning *previously to the American patent*; to so construe it would open the door to fraud and unintended hardship.

Argument of counsel.

Goodyear D. V. Co. v. Willis, 7 Pat. Off. Gaz. 41; Kendrick v. Emmons, 9 Pat. Off. Gaz. 201.

Patents for lands have been repeatedly treated by the Courts as analogous to patents for inventions.

Phila. & T. R. Co. v. Stimpson, 14 Pet. 459 [4 Am. & Eng. 324]; Providence Rubber Co. v. Goodyear, 9 Wall. 788 [8 Am. & Eng. 150]; Mowry v. Whitney, 14 Wall. 434 [8 Am. & Eng. 506]; Woodworth v. Hall, 1 Wood. & M. 395; Hughes v. U. S. 4 Wall. 232; U. S. v. Am. Bell Teleph. Co., 45 Pat. Off. Gaz. 1311 [128 U. S. 315, p. 36 *ante*]; Stark v. Starr, 6 Wall. 417.

Messrs. BENJAMIN F. THURSTON and GEORGE H. LOTHROP for appellee:

The fact that the Bate Canadian patent was extended prior to its expiration in Canada, for two further terms of five years respectively has no effect to extend the life of the Bate United States patent.

Henry v. Providence Tool Co., 14 Pat. Off. Gaz. 855; Reissner v. Sharp, 16 Blatch. 383.

The Bate United States Patent is not relieved from the operation of section 4887 in consequence of the Canadian Statute 46 Vict. chap. 19, May 25, 1883.

Liverpool Ins. Co. v. Mass. 10 Wall. 566; Elmendorf v. Taylor, 10 Wheat. 152; Bate Refrigerating Co. v. Gillett, 31 Fed. Rep. 813.

The fact that the Bate patent was applied for in the United States prior to the application for a patent for the same invention in Canada does not relieve the patent granted in the United States subsequent to the grant of the Canadian patent from the operation of section 4887.

Dwar. Stat. 694; Rex v. Stoke, Damerel, 7 Barn. & C. 569; Rex v. Ramsgate, 6 Barn. & C. 712; Rex v. Barham, 8 Barn. & C. 104; Notley v. Buck, 8 Barn. & C. 164; Andrews v. Hovey, 123 U. S. 267 [17 Am. & Eng. 268]; Gramme Electrical Co. v. Arnoux & H. Electric Co., 17 Fed. Rep. 839.

Argument of counsel.

Messrs. EDMUND WETMORE, SAMUEL A. DUNCAN, LEONARD E. CURTIS, WILLIAM BAKEWELL, THOMAS B. KERR, CHAUNCEY SMITH, FREDERICK P. FISH, THOMAS L. LIVERMORE, and R. S. TAYLOR, by leave of Court, for certain parties interested in the question.

Section 4887 applies to every United States patent for an invention patented in a foreign country before the grant of the domestic patent, whether such foreign patent is granted before or after the application for the United States patent.

Endlich, Stat. § 2, p. 4.

Where the meaning of the Revised Statutes is plain, the Court cannot look to the statutes which have been revised to see whether errors were committed in revising them.

U. S. v. Bowen, 100 U. S. 508; Canan v. Pound Mfg. Co. 23 Blatch. 173; Andrews v. Hovey, 123 U. S. 267 [17 Am. & Eng. 268]; S. C. 124 U. S. 694 [17 Am. & Eng. 477]; St. Paul Plow Works v. Starling, 127 U. S. 376 [18 Am. & Eng. 598]; Curtis, Pat. p. 19; Coryton, Patents, ed. 1855, p. 449; *Ex-parte* Boyer, Pat. Com. Dec. 1870, p. 131; Tucker v. Davis, 2 Pat. Off. Gaz. 224; Bell v. Brooks, 19 Pat. Off. Gaz. 290.

The limitation need not be expressed on the face of the American patent.

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483]; Canan v. Pound Mfg. Co. 23 Fed. Rep. 185; Am. Paper Barrel Co. v. Laraway, 28 Fed. Rep. 141; U. S. v. Marble, 2 Mackey, 12.

It is immaterial whether the American patent was applied for before the foreign patent or not. This was important under the first laws, but no such distinction exists under the Act of 1870.

Ex-parte Boyer, Pat. Com. Dec. 1870, p. 131; Gramme, etc., Co. v. Arnoux & H. Electric Co. 21 Blatch. 450; Bate Co. v. Gillett, 31 Fed. Rep. 809.

Section 4887 applies to all inventors, whether citizens or aliens.

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Edison Co. v. U. S. Co. 35 Fed. Rep. 134; Carpmael Patent Laws, 107, 199, 288, 455.

The provision of section 4887 that the United States patent "shall be so limited as to expire at the same time with the foreign patent, or if there be more than one, at the same time with the one having the shortest term," means that it shall expire at the end of the current term of the foreign patent in existence at the date of the American grant, without regard to any subsequent extension or curtailment of that term depending upon an uncertain event.

Henry v. Providence Tool Co. 3 Ban. & Ard. 501; 14 Pat. Off. Gaz. 855; Bate Refrigerating Co. v. Gillett, 18 Fed. Rep. 553; Reissner v. Sharp, 16 Blatch. 383; Gramme Electrical Co. v. Arnoux & H. Electric Co. 21 Blatch. 450; Paillard v. Bruno, 29 Fed. Rep. 864; Holmes Electric Protective Co. v. Met. Burglar Alarm Co. 21 Fed. Rep. 458.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought in the Circuit Court of the United States for the District of Massachusetts, December 16, 1886, by the Bate Refrigerating Company, a New York corporation, against George H. Hammond and Company, a Michigan corporation, founded on the alleged infringement of letters patent No. 197,314, granted to John J. Bate, November 20, 1877, for the term of seventeen years from that day, on an application filed December 1, 1876, for an "improvement in processes for preserving meats during transportation and storage."

The plaintiff is the assignee of the patent. The bill alleges infringement, within the District of Massachusetts and elsewhere in the United States, by the making, using, and vending of the patented process; and alleges that the defendant has been engaged in the business of shipping fresh meat from the Port of Boston to Ports in Great Britain, by means of the process claimed in the patent. The claim is as follows: "The herein-described process of preserving meat

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during transportation and storage, by enveloping the same in a covering of fibrous or woven material, and subjecting it when thus enveloped to the continuous action of a current of air of suitably low and regulated temperature, substantially as and for the purpose set forth."

The defendant filed a plea, setting up, among other things, that, on the 9th of January, 1877, letters patent of the Dominion of Canada, No. 6938, for the same invention as that described and claimed in No. 197,314, were granted to the same John J. Bate, for the term of five years from the 9th of January, 1877; that, after No. 197,314 had expired, at the end of the term of five years for which such Canadian patent was granted, the Circuit Court of the United States for the District of New Jersey, upon being advised of the grant of such Canadian patent, vacated and set aside an injunction which it had theretofore granted, by an interlocutory decree made in a suit in equity founded on No. 197,314, brought by the Bate Refrigerating Company against Benjamin W. Gillett and others; that thereafter Bate and the Bate Refrigerating Company procured the rendition of a judgment by the Superior Court for Lower Canada, declaring the Canadian patent to have been void *ab initio*, and vacating it and setting it aside; that such judgment of the Superior Court for Lower Canada being brought to the attention of the Circuit Court of the United States for the District of New Jersey, that Court reinstated said injunction; and that afterwards the Superior Court for Lower Canada, in a suit brought by Sir Alexander Campbell, Minister of Justice and Attorney-General for the Dominion of Canada, against Bate and the Bate Refrigerating Company and others, adjudged that its said prior judgment had been "arrived at through the fraud to the law and collusion" of Bate, the Bate Refrigerating Company, and another person, "deceiving the Attorney-General, the advocates, and the Court, employing and paying counsel on both sides, as well, seemingly against themselves as on their apparent be-

129 U. S. 152-153.

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half," and revoked and annulled its said prior judgment. The plea concluded by averring that No. 197,314 expired on the 9th of January, 1882, and that the Circuit Court, sitting as a Court of Equity, had no jurisdiction to hear and determine an action in equity for the infringement of the patent.

The bill was then amended by averring that the application for the Canadian patent was not made until December 19, 1876, while the application for No. 197,314 was made December 1, 1876; and that the Canadian patent was not actually or legally issued until on or about June 26, 1878, on or about which date a model of the invention as required by law, was filed in the Canadian Patent Office. The amendment to the bill also set forth the two judgments of the Superior Court for Lower Canada, and averred that, by virtue of an Act of the Parliament of the Dominion of Canada, assented to May 25, 1883, (46 Victoria, chap. 19), the original term of the Canadian patent was actually fifteen years, instead of five years, and it would not terminate before the 9th of January, 1892.

Subsequently the defendant filed an answer to the bill, setting up, among other defences, want of novelty in the patented invention, but not denying that it had used the invention subsequently to the granting of the patent; and also setting up the granting of the Canadian patent for five years from January 9, 1877; that No. 197,314 was void, because it was issued for seventeen years, and its term was not limited by the commissioner of patents to five years from January 9, 1877; that the Canadian application was not made until after the application for No. 197,314 was filed; that Bate did not file a model in the Canadian Patent Office until after the grant of the Canadian patent; and that the Canadian patent was actually patented to Bate on the 9th of January, 1877, and took effect on that date, although not actually delivered to the patentee until after the filing of the model. It also sets forth the two Canadian judgments, and avers that, on the 30th of November, 1881, Bate

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made a petition to the Commissioner of Patents for Canada, for the extension of No. 6938, in which he averred that on the 9th of January, 1877, he "obtained a patent for the period of five years from said date, for new and useful improvements on apparatus and process for ventilation, refrigeration," etc., and that he was the holder of that patent in trust for the Bate Refrigerating Company, and prayed that it might be extended "for another period of ten years;" that, on the filing of that petition, an extension of the patent was granted, on December 12, 1881, "for a second period of five years" from January 9, 1882; that a further extension of the patent was granted, December 13, 1881, "for a third period of five years" from January 9, 1887; that the plaintiff is thereby estopped from denying the fact that No. 6938 was legally granted, January 9, 1877, for a period of five years; that by virtue of the Act of 46 Victoria, chap. 19, the original term for which No. 6938 was granted was not fifteen years instead of five years; that said Act can have no effect on the duration of No. 197,314; that, by reason of the prior patenting of the invention by Bate in Canada for five years from January 9, 1877, No. 197,314, if valid at all, expired on January 9, 1882; and that, therefore, this Court, sitting in equity, has no jurisdiction to hear and determine an action for its infringement.

Without the filing of any replication to this answer, the parties entered into a written stipulation, setting forth as follows: "Whereas, the answer of the defendant corporation in this cause sets up, in addition to other defences, that the patent on which this suit is brought, being No. 197,314, granted to John J. Bate, complainant's assignor and president, on the 20th day of November, A. D. 1877, expired on the 9th day of January, A. D. 1882, by reason of the prior grant to said John J. Bate of a patent in the Dominion of Canada for the same invention, and prays the same benefit of said defence as if the same had been pleaded to the bill of complaint; and whereas, both parties desire to

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have said matter of defence argued and decided without incurring the great expense of taking testimony necessary to present for final hearing all the defences raised in said answer: it is, therefore, stipulated and agreed by and between the parties that the defence above named shall be submitted to the Court, as on plea set down for argument, upon the following agreed state of facts." The facts so agreed to were substantially as follows:

1st. The patent in suit, No. 197,314, was granted to John J. Bate on November 20, 1877, and the application therefor was filed in the United States Patent Office, December 1, 1876; and said patent was assigned to complainant before this suit was brought, the said Bate being a citizen of the United States at the time of said application, and the said invention having been made and reduced to practice by him therein.

2d. On December 19, 1876, said John J. Bate filed in the Patent Office of the Dominion of Canada an application for a patent for improvements in apparatus and processes for ventilation, refrigeration, etc., including therein, as one feature, the process described and claimed in said patent, No. 197,314.

3d. In pursuance of said application the Commissioner of Patents for the Dominion of Canada caused letters patent of the Dominion of Canada, No. 6938, for the invention set forth in said application, and granting to said John J. Bate, his executors, administrators, and assigns, the exclusive right, privilege, and liberty of making, constructing, using, and vending to others to be used, the said invention, to be signed and sealed with the seal of the Patent Office on January 9, 1877, and to be registered on January 11, 1877, and that the period of said grant expressed in said patent was five years from and after January 9, 1877.

4th. On January 12, 1877, said Commissioner of Patents called upon said John J. Bate to furnish to the Patent Office

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a model of his said invention, and such a model was furnished by said Bate on June 26, 1878, on which day said patent, No. 6938, was mailed to said John J. Bate.

5th. On December 5, 1881, said John J. Bate filed a petition in the Canada Patent Office, setting forth, "that on the 9th day of January, A. D. 1877, your petitioner obtained a patent for the period of five years from the said date, for new and useful improvements on apparatus and process for ventilation, refrigeration, etc. ; that he is the holder of the said patent in trust for the 'Bate Refrigerating Company,' and therefore prays that it may be extended for another period of ten years."

6th. On December 12, 1881, said patent, No. 6938, was extended for five years from January 9, 1882, under renewal No. 13,812, and on December 13, 1881, said patent was further extended for five years from January 9, 1887, under renewal No. 13,813, in pursuance of the above named petition.

7th. On or about July 9, 1883, and June 30, 1886, the Superior Court for Lower Canada rendered two judgments affecting said Canada patent, to the purport set forth in the plea and the answer.

The stipulation further provided, that, if the decision of the Circuit Court should be in favor of the plaintiff, it should have a reasonable time thereafter to file a replication to the answer, and the cause should proceed in the ordinary manner ; that, if the Circuit Court should decide the cause in favor of the defendant, a decree should be entered dismissing the bill, so that the plaintiff might take an appeal therefrom to the Supreme Court of the United States ; and that, if the Circuit Court should decide the cause in favor of the defendant, and the Supreme Court of the United States should, on appeal, reverse that decision, the defendant should have a right to proceed in the Circuit Court, under its answer, as to all defences set up therein, except the one mentioned in the stipulation, as it might have proceeded if the stipulation had not been made.

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The cause was heard on the pleadings and stipulation, and the Circuit Court entered a decree dismissing the bill, from which decree the plaintiff has appealed to this Court. The Circuit Court gave no opinion on the merits of the case, but in deciding it followed, as it stated, the decision of the Circuit Court of the United States for the District of New Jersey, held by Mr. Justice BRADLEY, in August, 1887, made in the case of *Bate Refrigerating Company v. Gillett*, 31 Fed. Rep. 809.

(a) The questions discussed at the bar arise under section 4887 of the Revised Statutes, which is as follows: "No person shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid, by reason of its having been first patented or caused to be patented in a foreign country, unless the same has been introduced into public use in the United States for more than two years prior to the application. But every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term; and in no case shall it be in force for more than seventeen years."

Two propositions as to the construction of this section are contended for by the appellant: (1) that the words "first patented or caused to be patented in a foreign country" do not mean "first patented or caused to be patented" before the issuing, or granting, or date, of the United States patent, but mean "first patented or caused to be patented" before the date of the application for the United States patent; (2) that the declaration of the section, that "Every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term,"

(a) 129 U. S. inserts "after stating the case as above reported," and begins opinion here.

129 U. S. 157, 164-165.

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does not mean that the patent so granted shall expire at the same time with the term to which the foreign patent was in fact limited at the time the United States patent was granted; but that it means that it shall expire when the foreign patent expires, without reference to the limitation of the term of such foreign patent in actual force at the time the United States patent was granted.

We do not find it necessary to consider the first of these questions, because we are of opinion that the proper construction of section 4887 upon the second question is, that the patent in the present case does not expire before January 9, 1892, the time when the Canadian patent, No. 6938, will expire.

The Canadian patent was extended for the two periods of five years each, under the provisions of section 17 of the Canadian Act assented to June 14, 1872 (35 Victoria, chap. 26), which was in force when the United States patent, No. 197,314, was applied for and granted, and which read as follows: "17. Patents of invention issued by the Patent Office shall be valid for a period of five, ten, or fifteen years, at the option of the applicant, but at or before the expiration of the said five or ten years the holder thereof may obtain an extension of the patent for another period of five years, and after those second five years may again obtain a further extension for another period of five years, not in any case to exceed a total period of fifteen years in all; and the instrument delivered by the Patent Office for such extension of time shall be in the form which may be from time to time adopted, to be attached, with reference to the patent and under the signature of the Commissioner, or of any other member of the Privy Council in the case of absence of the Commissioner."

This statute appears to have been strictly complied with in the present case. The Canadian patent, No. 6938, ran, on its face, for five years from January 9, 1877; and, prior to the expiration of that time, and on the 5th of December, 129 U. S. 165-166.

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1881, Bate applied for its extension for ten years; and it was, before the five years expired, and on the 12th of December, 1881, extended for five years from January 9, 1882, and, on December 18, 1881, for five years from January 9, 1887. The Canadian patent, therefore, has never ceased to exist, but has been in force continuously from January 9, 1877. It was in force when No. 197,314 was issued; and it has, by virtue of a Canadian Statute in force when the application for No. 197,314 was filed, continued to be in force at all times since the latter patent was granted. This is true, although the Canadian patent, No. 6988, as originally granted, stated on its face that it was granted "for the period of five years" from January 9, 1877; and although the instrument granting the first extension of five years states that it is granted "for another period of five years, to commence and be computed on and from the ninth day of January, which will be in the year one thousand eight hundred and eighty-two;" and although the instrument granting the second extension of five years states that it is granted "for another period of five years, to commence and be computed on and from the ninth day of January, which will be in the year one thousand eight hundred and eighty-seven." By the language of section 17 of the Canadian Act of 1872, what was granted under it was "an extension of the patent"—of the same patent—for a further term. Therefore the Canadian patent does not expire, and it never could have been properly said that it would expire, before January 9, 1892; and hence No. 197,314, if so limited as to expire at the same time with the Canadian patent, cannot expire before January 9, 1892.

Section 6 of the Act of March 3, 1839 (5 Stat. at L. 354), provided that a United States patent for an invention patented in a foreign country more than six months prior to the application of the inventor for the United States patent, should be limited to the term of fourteen years from the date or publication of the foreign patent. Section 25 of the Act of July

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8, 1870 (16 Stat. at L. 201), provided that the United States patent for an invention "first patented or caused to be patented in a foreign country" should "expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term; but in no case shall it be in force more than seventeen years." Section 4887 of the Revised Statutes provides, that "Every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term; and in no case shall it be in force more than seventeen years."

These provisions of the Act of 1870 and of the Revised Statutes mean that the United States patent shall not expire so long as the foreign patent continues to exist, not extending beyond seventeen years from the date of the United States patent, but shall continue in force, though not longer than seventeen years from its date, so long as the foreign patent continues to exist. Under section 4887, although, in the case provided for by it, the United States patent may on its face run for seventeen years from its date, it is to be so limited by the Courts, as a matter to be adjudicated on evidence *in pais*, as to expire at the same time with the foreign patent, not running in any case more than the seventeen years; but, subject to the latter limitation, it is to be in force as long as the foreign patent is in force.

A contrary view to this has been expressed by several Circuit Courts of the United States.

In October, 1878, in the Circuit Court for the District of Rhode Island, in *Henry v. Providence Tool Company*, 3 Ban. & Ard. 501, it was held that the 25th section of the Act of July 8, 1870, meant that the United States patent should expire at the same time with the original term of a foreign patent for the same invention, without regard to any prolongation of the foreign patent which the patentee might pro-

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cure from the foreign Government. In that case, the United States patent was granted October 10, 1871. A British patent for the same invention had been granted to the patentee on the 15th of November, 1860, for fourteen years, and expired November 15, 1874. Thirteen days after the latter date an order was made for the extension of the British patent for four years, the extension bearing date as of the day after the expiration of the original term; but the Court held that the United States patent expired on the 15th of November, 1874.

That decision was followed by the Circuit Court for the Southern District of New York, in *Reissner v. Sharp*, 16 Blatch. 383, in June, 1879, which case arose under section 4887 of the Revised Statutes. In that case, the United States patent, granted October 20, 1874, for seventeen years, was held to have expired on the 15th of May, 1878, because a patent was granted in Canada, under the authority of the patentee, for the same invention, on the 15th of May, 1873, for five years from that day, although in March, 1878, the Canada patent was extended for five years from the 15th of May, 1878, and also for five years from the 15th of May, 1883.

In *Bate Refrigerating Company v. Gillett*, 13 Fed. Rep. 553, in the Circuit Court for the District of New Jersey, in August, 1882, and in the same suit, in the same Court, in August, 1887, 31 Fed. Rep. 809, in regard to the patent in question, in the present suit and on the same facts here presented, it was held, on the strength of the two Circuit Court cases above referred to, that the United States patent expired when the original term of the Canadian patent expired.

But we are of opinion that, in the present case, where the Canadian Statute under which the extensions of the Canadian patent were granted was in force when the United States patent was issued, and also when that patent was applied for, and where, by the Canadian Statute, the extension of the patent for Canada was a matter entirely of right, at the

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option of the patentee, on his payment of a required fee; and where the fifteen years' term of the Canadian patent had been continuous and without interruption, the United States patent does not expire before the end of the fifteen years' duration of the Canadian patent. This is true, although the United States patent runs, on its face, for seventeen years from its date, and is not, on its face, so limited as to expire at the same time with the foreign patent; it not being necessary that the United States patent should, on its face, be limited in duration to the duration of the foreign patent.

In *O'Reilly v. Morse*, 15 How. 62 [5 Am. & Eng. 483], the patent to Morse was issued June 20, 1840, for fourteen years from that day, while section 6 of the Act of March 3, 1839 (5 Stat. at L. 354), was in force, which required that every United States patent for an invention patented in a foreign country should be "limited to the term of fourteen years from the date or publication of such foreign letters patent." Morse applied for his United States patent April 7, 1838. He obtained a patent in France for his invention October 30, 1838. The objection was taken in the answer that the United States patent was void on its face because not limited to the term of the French patent. The Circuit Court held that the patent was not void, but that the exclusive right granted by it must be limited to fourteen years from October 30, 1838. The same objection was urged in this Court, and the same ruling was made. In *Smith v. Ely*, 15 How. 137 [6 Am. & Eng. 1], which was a suit on the same patent, under the same facts, the same question arose and was decided in the same way. A full and interesting discussion of the question is to be found in *Canan v. Pound Manufacturing Company*, 23 Blatch. 173, in regard to § 4887, which contains the same word "limited" found in § 6 of the Act of 1839, which word is not found in § 25 of the Act of July 8, 1870, from which § 4887 was taken.

Under this view, the time of the expiration of the foreign patent may be shown by evidence *in pais*, either the record

Opinion of the Court.

of the foreign patent itself showing its duration, or other proper evidence; and it is no more objectionable to show the time of the expiration of the foreign patent by giving evidence of extensions such as those in the present case, and thus to show the time when, by virtue of such extensions, the United States patent will expire.

We find in the record in this case, among the papers which it states were submitted to the Court under the stipulation above referred to, a certificate of the Commissioner of Patents, dated July 3, 1883, appended to a certified copy of the United States patent, stating that the term thereof is limited so that it shall expire with the patent obtained by the patentee in Canada, No. 6988, dated January 9, 1877, for the same invention; that the proper entries and corrections have been made in the files and records of the Patent Office; that it had been shown that the original patent had been lost; and that the certificate is made because that patent was issued without limitation, as required by section 4887 of the Revised Statutes. While it may be proper, in a case where the date of a foreign patent issued prior to the granting of a United States patent to the same patentee for the same invention is made known to the Patent Office prior to the granting of the United States patent, to insert in that patent a statement of the limitation of its duration, in accordance with the duration of the foreign patent, it does not affect the validity of the United States patent if such limitation is not contained on its face.

It results from these views, that the decree of the Circuit Court must be reversed, and the case be remanded to that Court, with a direction to take such further proceedings, as shall be in accordance with law and with the stipulation between the parties, above referred to, and not inconsistent with this opinion.

Notes and citations.

Notes :

Act 1836, Sec. 8 ; Act 1839, Sec. 6 ; Act 1870, Sec. 25 ; R. S., Sec. 4887.

Term of domestic patent in relation to the prior foreign patent :

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483].

Smith v. Ely, 15 How. 137 [6 Am. & Eng. 1].

Siemens v. Sellers, 123 U. S. 276 [17 Am. & Eng. 268].

Telephone Cases, 126 U. S. 1 [18 Am. & Eng. 1].

Pohl v. Anchor Brewing Co., 134 U. S. 381.

Commercial Mfg. Co. v. Fairbanks Canning Co. 135 U. S. 176.

Patent in suit :

No. 197,314. John J. Bate. November 20, 1877. Process for preserving meats during transportation and storage.

OTHER SUITS ON SAME PATENT :

Bate Refrigerating Co. v. Gillett, 1881. 9 Fed. Rep. 387.

Bate Refrigerating Co. v. Eastman, 1881. 11 Fed. Rep. 902.

Bate Refrigerating Co. v. Gillett, 1882. 22 O. G. 1205. 13 Fed. Rep. 553.

Bate Refrigerating Co. v. Gillett, 1884. 20 Fed. Rep. 192.

Bate Refrigerating Co. v. Gillett, 1885. 32 O. G. 1466. 24 Fed. Rep. 645.

Bate Refrigerating Co. v. Gillett, 1887. 30 Fed. Rep. 683. 39 O. G. 833.

Bate Refrigerating Co. v. Gillett, 1887. 31 Fed. Rep. 809. 40 O. G. 1029.

Notes and citations.

Cited:

IN SUPREME COURT IN:

Pohl v. Anchor Brewing Co., 1890. 134 U. S. 381.

IN CIRCUIT COURTS IN:

Edison Electric Light Co. v. Westinghouse. October, 1889. 40
Fed. Rep. 666.

Huber v. N. O. Nelson Mfg. Co. May, 1889. 38 Fed. Rep. 830.

Pohl v. Anchor Brewing Co. August, 1889. 39 Fed. Rep. 782.

IN TEXT BOOKS:

Walker on Patents. 2d ed., 1889. pp. 127, 128.

Robinson on Patents, 1890. § 1043.

Syllabus.

WILLIAM W. WADE, APPELLANT, v. HENRY B.
METCALF, ET AL.*

129 U. S. 202-206. October Term, 1888.

[Bk. 32, L. ed., 661.]

Affirming *Ibid*, 16 Fed. Rep. 130.

Argued January 10, 1889. Decided January 21, 1889.

R. S. Sec. 4899. Right to continue to use specific machines. Sale or license prior to application.

1. R. S. Sec. 4899 clearly defines four classes of persons who shall have the right to use and to vend to others to be used a specific patentable machine, obtained before the inventor's application for patent :
 - 1st. He who purchases the machine of the inventor.
 - 2d. He who constructs it with inventor's knowledge and consent.
 - 3d. He who sells, and,
 - 4th. He who uses a machine constructed with inventor's knowledge and consent. (p. 258.)
2. But after a machine has been constructed by any person, with the inventor's knowledge and consent, before the application for a patent, every other person who either sells or uses that machine is within the protection of the section and needs no new consent or permission of the inventor. (p. 259.)
3. Where the machines of plaintiff's invention were constructed with his knowledge and consent, and prior to his application for patent, by a partnership of which he and the defendants were the members, and were used by defendants after the dissolution of the partnership, *held* that defendants clearly came within the fourth class R. S. Sec. 4899. (p. 260.)
4. The question raised, but not determined, whether a sale or license from an inventor, prior to his application to two or

* See Explanation of Notes, page III.

Statement of the case.

more partners or tenants in common, confers upon each a right to use and to sell the subject of the sale or license, bringing them within the second class of persons defined in R. S. Sec. 4899. (p. 260.)

[Cited in the opinion of the court:]

Kendall v. Winsor, 21 How. 322 [7 Am. & Eng. 1]. p. 259.

Andrews v. Hovey, 124 U. S. 694 [17 Am. & Eng. 477]. p. 259.

McClurg v. Kingsland, 1 How. 202 [4 Am. & Eng. 382] p. 260.

Bloomer v. McQuewan, 14 How. 539 [5 Am. & Eng. 434]. p. 260.

Bloomer v. Millinger, 1 Wall. 340 [7 Am. & Eng. 185]. p. 260.

Adams v. Burke, 17 Wall. 453 [9 Am. & Eng. 67]. p. 260.

Birdsell v. Shaliol, 112 U. S. 485 [15 Am. & Eng. 354]. p. 260.

Appeal from a decree of the Circuit Court of the United States for the District of Massachusetts, dismissing a suit in equity for infringement of letters patent, No. 228,233, granted June 1, 1880, for improvements in machines for making buttons.

Reported below, 16 Fed. Rep. 180.

Statement by Mr. Justice GRAY:

This was a bill in equity, filed December 4, 1880, by William W. Wade, a citizen of Massachusetts, against Henry B. Metcalf, a citizen of Rhode Island, and William McCleery, a citizen of Massachusetts, alleging that letters patent, numbered 228,233, granted to the plaintiff June 1, 1880, upon his application filed July 26, 1879, for improvements in machines for making buttons, had been infringed by the defendants' use of forty-eight machines embodying such improvements. At the hearing upon pleadings and proofs, the case, so far as it is material to be stated, appeared to be as follows:

The parties to this suit, owning earlier patents for improvements in buttons, were in partnership in the business of making and selling buttons, under the name of the Boston Button Company, from January, 1875, until the dissolution of the partnership in October, 1880. By the copartnership agreement, certain salaries were to be paid to the

Statement of the case.

plaintiff for improving and developing the machinery, to the defendant Metcalf for assistance in financial matters, and to the defendant McCleery for general superintendence; and the profits of the business were to belong one-half to Metcalf and one-fourth each to the plaintiff and McCleery. The forty-eight machines, with the improvements in question, were constructed by the partnership, with the knowledge and consent of the plaintiff, before the application for the patent sued on, and were used by the partnership during its continuance, and by the defendants after its dissolution. The partnership was dissolved October 30, 1880, by an agreement in writing executed by the three partners, the terms of which were as follows:

"1st. It is agreed that the firm composed of said Metcalf, McCleery and Wade, and doing business under the style of the Boston Button Company, shall be this day dissolved.

"2d. The said William W. Wade, in consideration of the payment to him of the sum of twelve thousand dollars by the said Metcalf and McCleery, receipt of which is hereby acknowledged, hereby sells and conveys to the said Metcalf and McCleery all his interest in the property, and assets of every name and nature of said firm of the Boston Button Company, together with the good will of the same, with authority to use his name if necessary in the premises, saving him harmless from all costs in the same.

"And whereas, certain machines, forty-eight in number, with a certain improvement thereon, manufactured by said firm, have been and are now in use by said firm, and the same Metcalf and McCleery claim the right as members of said firm, by virtue of the manufacture and use by said firm of said machines with said improvements, to continue such use, and the said Wade reserves the right to deny such claim:

"Therefore, nothing in this sale and conveyance shall operate as an assent on the part of said Wade to the right to use said improvements upon said machines, or as granting

Argument of counsel.

any rights for such use, other than said Metcalf and McCleery now have, whatever they may be; and nothing in this reservation shall be construed to lessen or impair any rights which the said Metcalf and McCleery may have to such use.

"It being further understood that each party shall have the right to manufacture and use machines under patents for improvements in buttons, one dated March 23, 1869, and numbered 88,099, and one dated April 27, 1869, and numbered 89,450; but neither party shall vend to others the right to use or manufacture under said patents without mutual consent, except as the same may be necessary in the reorganization or liquidation of their own business.

"The said Metcalf and McCleery hereby assume the payment of the debts of said Boston Button Company, and agree to indemnify and save harmless the said Wade therefrom."

The Circuit Court dismissed the bill. 16 Fed. Rep. 130. The plaintiff appealed to this Court.

Mr. GEORGE F. BETTS, for appellant:

Defendants failed to establish that the invention had been in public use for more than two years before application for the patent.

The burden of proof is on the defendants to establish this defence.

Washburn & M. Mfg. Co. v Haish, 10 Biss. 65; Adams & W. Mfg. Co. v. Rathbone, 26 Fed. Rep. 262; Birdsall v. McDonald, 1 Ban. & Ard. 165; McCormick v. Seymour, 2 Blatch. 256; Comstock v. Sandusky Seat Co. 3 Ban. & Ard. 188.

These facts show the use not to have been public.

Elizabeth v. Nicholson Pavement Co. 97 U. S. 134 [11 Am. & Eng. 514]; Jennings v. Pierce, 15 Blatch. 42; Sinclair v. Backus, 5 Ban. & Ard. 81; Sprague v. Smith & G. Mfg. Co. 12 Fed. Rep. 721.

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The defendants must show that the use was of the combined improvements as patented.

Draper v. Wattles, 3 Ban. & Ard. 621; *Graham v. McCormick*, 10 Biss. 42.

Any claim of the defendants to any interest in the patent would be untenable.

Hapgood v. Hewitt, 119 U. S. 227 [16 Am. & Eng. 412]; *McWilliams Mfg. Co. v. Blundell*, 11 Fed. Rep. 419; *Burr v. De la Vergne*, 102 N. Y. 415; 3 Cent. Rep. 423.

Section 4899, R. S., only gives protection to the person who purchases the machine from the inventor, or who constructs it with his knowledge and consent prior to his application for a patent.

That the protection given to *the person* under this section is that of an implied license, seems to be clearly established.

Kendall v. Winsor, 21 How. 322 [7 Am. & Eng. 1]; *Bloomer v. Millinger*, 1 Wall. 340; [7 Am. & Eng. 185]; *Black v. Hubbard*, 3 Ban. & Ard. 39; *Am. Tube Works v. Bridgewater Iron Co.* 26 Fed. Rep. 334; *Chabot v. Am. Buttonhole & O. Co.* 6 Fish. Pat. Cas. 71; *Herman v. Herman*, 29 Fed. Rep. 92.

Rights to use and to vend are the only rights given by the statute, or that can be properly inferred from the acts of the parties.

Curran v. Craig, 22 Fed. Rep. 101; *Montross v. Mabie*, 30 Fed. Rep. 237; *Brooks v. Byam*, 2 Story, 525; *Consolidated Fruit Jar Co. v. Whitney*, 1 Ban. & Ard. 356.

When, as in this case, the patent is for a machine the implied license is only to use and vend the specific machines.

Keller v. Stolzenbach, 20 Fed. Rep. 49; *Brickill v. N. Y.* 7 Fed. Rep. 479; *Magoun v. N. E. Glass Co.* 3 Ban. & Ard. 114; *Wilkins v. Spafford*, *Id.* 274.

The defendants, being only two out of three members of the firm, cannot claim the right to continue to use this partnership property as their own, after the dissolution of the firm.

Argument of counsel.

Lindley, Partn. 554, 587; 1 Schouler, Pers. Prop. §§ 189, 198; Bell v. Morrison, 1 Pet. 351; Rogers v. Batchelor, 12 Pet. 221.

The mere sale of an article by the patentee does not necessarily carry with it the license to use, unless such sale is unqualified.

Porter Needle Co. v. Nat. Needle Co. 17 Fed. Rep. 536.

The use of the article purchased may be restricted or withheld to any extent that the parties to the sale may agree, and the only question is: What is the contract?

Providence Rubber Co. v. Goodyear, 9 Wall. 788 [8 Am. & Eng. 150]; Mitchell v. Hawley, 16 Wall. 544 [9 Am. & Eng. 51]; Consolidated Fruit Jar Co. v. Whitney, 1 Ban. & Ard. 356; Wicke v. Kleinknecht, *Id.* 608; Searls v. Bouton, 20 Blatch. 426; Gibbs v. Hoefner, 22 Blatch. 36.

Messrs. EDWARD W. HUTCHINGS, and HENRY WHEELER, for appellees:

The defendants have the right, under section 4899 R. S. to use the forty-eight machines with the improvements thereon.

Pennock v. Dialogue, 2 Pet. 1 [4 Am. & Eng. 217]; McClurg v. Kingsland, 1 How. 202 [4 Am. & Eng. 382]; Chabot v. Am. Buttonhole & O. Co. 6 Fish. Pat. Cas. 71; Bloomer v. McQuewan, 14 How. 539 [5 Am. & Eng. 434]; Mitchell v. Hawley, 16 Wall. 544 [9 Am. & Eng. 51]; Duffy v. Reynolds, 24 Fed. Rep. 855; Keller v. Stolzenbach, 20 Fed. Rep. 47; Wade v. Metcalf, 16 Fed. Rep. 131; Montross v. Mabie, 30 Fed. Rep. 237; Barry v. Crane Brothers Mfg. Co. 22 Fed. Rep. 396; Wilkens v. Spafford, 3 Ban. & Ard. 274; Am. Tube Works v. Bridgewater Iron Co. 26 Fed. Rep. 334.

Mr. Justice GRAY (*a*) delivered the opinion of the Court:

The decision of this case turns upon section 4899 of the Revised Statutes, by which it is enacted that "Every person who purchases of the inventor or discoverer, or with his knowledge and consent constructs, any newly invented or dis-

(*a*) 129 U. S. inserts "after stating the case as above reported."
129 U. S. 304.

Opinion of the Court.

covered machine or other patentable article, prior to the application by the inventor or discoverer for a patent, or who sells or uses one so constructed, shall have the right to use and vend to others to be used the specific thing so made or purchased, without liability therefor."

This section clearly defines four classes of persons who shall have the right to use, and to vend to others to be used, a specific patentable machine:

1st. Every person "who purchases of the inventor" the machine before his application for a patent.

2d. Every person who "with his knowledge and consent constructs" the machine before the application.

3d. Every person "who sells" a machine "so constructed," that is to say, which has been constructed with the knowledge and consent of the inventor by another person.

4th. Every person who "uses one so constructed," that is to say, constructed with the inventor's knowledge and consent by another person.

In order to entitle a person of any of these four classes to use and vend the machine, under this section, the machine must originally have been either purchased from the inventor, or else constructed with his knowledge and consent, before his application for a patent; and it may well be that a fraudulent or surreptitious purchase or construction is insufficient. *Kendall v. Winsor*, 21 How. 322 [7 Am. & Eng. 1]; *Andrews v. Hovey*, 124 U. S. 694, 708 [17 Am. & Eng. 477].

But after a machine has been constructed by any person with the inventor's knowledge and consent before the application for a patent, every other person who either sells or uses that machine is within the protection of the section, and needs no new consent or permission of the inventor.

If the first two clauses of the section, taken by themselves, leave the matter in any doubt, the succeeding clause, including every person "who sells or uses one so constructed," makes it perfectly clear that the implied license conferred by the section sets the specific machine free from the monopoly of

Opinion of the Court.

the patent in the hands of any person, just as if that person were the lawful assignee of one holding the machine under a purchase or an express and unrestricted license from the inventor. *McClurg v. Kingsland*, 1 How. 202 [4 Am. & Eng. 382]; *Bloomer v. McQuewan*, 14 How. 539 [5 Am. & Eng. 434]; *Bloomer v. Millinger*, 1 Wall. 340 [7 Am. & Eng. 185]; *Adams v. Burke*, 17 Wall. 453 [9 Am. & Eng. 67]; *Birdsell v. Shaliol*, 112 U. S. 485, 487 [15 Am. & Eng. 354].

In the case at bar, the machines of the plaintiff's invention were not purchased from him by the defendants. But they were constructed with his knowledge and consent by a partnership, of which he and the defendants were the members. It was strongly argued for the defendants, that a sale or a license from the inventor to two or more partners or tenants in common confers upon each a right to use and to sell the subject of the sale or license, and that the defendants, therefore, come within the second class of persons defined in the statute. But it is unnecessary to determine whether that is so or not, because if it is not, the defendants clearly come within the fourth class, being persons who use machines which have been constructed with the knowledge and consent of the inventor before his application for a patent.

The peculiar provisions of the agreement by which the partnership between the plaintiff and the defendants was dissolved did not, in terms or in legal effect, enlarge or diminish the rights of either party, independently of that agreement, in the machines in question.

Decree affirmed.

129 U. S. 205-206.

Notes :

Act 1839, Sec. 7; Act 1870, Sec. 37; R. S. Sec. 4899.

Oct., 1888.]

WADE v. METCALF.

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Notes and citations.

Patent in suit :

No. 228,233. W. W. Wade. June 1, 1880. Machines for making buttons.

OTHER SUITS ON SAME PATENT :

Wade v. Metcalf, 1883. 16 Fed. Rep. 130.

Cited :

IN SUPREME COURT IN :

Dable Grain Shovel Company v. Flint, 1890. 137 U. S. 41.

IN TEXT BOOKS:

Walker on Patents, 2d ed., 1889. p. 120.

Robinson on Patents, 1890. § 917.

[illegible]

Syllabus.

THE MORLEY SEWING MACHINE COMPANY
ET AL, APPELLANTS, v. CHARLES B. LAN-
CASTER.*

129 U. S. 263-290. October Term, 1888.

[Bk. 32, L. ed., 715; 47 O. G. 267.]

Reversing *Ibid*, 28 Fed. Rep. 344.

Argued January 11, 1889. Decided February 4, 1889.

Inventor—first in the art. *Improvement. Construction of patent*
—first in the art. *Equivalents. Infringement. Particular*
patent construed.

1. Where an invention is one of a primary character, and the mechanical function performed by the machines are, as a whole, entirely new, all subsequent machines, which employ substantially the same means to accomplish the same results, are infringements, although the subsequent machines may contain improvements in the separate mechanisms which go to make up the machine. (p. 333.)
2. A person who subsequently discovers a new mode of carrying out a patented process is not entitled to use the process without the consent of the patentee. (p. 338.)
3. Letters patent, No. 236,350, granted January 4, 1881, to Joseph H. Morley, for a machine for sewing buttons on fabrics, etc., is entitled to receive a liberal construction in view of the fact that the inventor was a pioneer in the construction of an automatic button sewing-machine, and is not to be limited to the particular devices or instrumentalities described by him, and used in the three main elements of his machine which, combined together, make it up. (p. 347.)
4. As thus construed the patent is infringed by defendant's machine, manufactured under letters patent, No. 268,369.

* See Explanation of Notes, page III.

Syllabus.

granted November 28, 1862, to Joseph Mathison, for a machine for sewing on buttons, the means employed in which are substantial equivalents of those used in the Morley machine. (p. 848.)

5. The mechanical devices used by the defendant are known substitutes or equivalents for those employed in the Morley machine to effect the same results, and this is the proper meaning of the term "known equivalents," in reference to a pioneer machine, such as that of Morley. (p. 351.)

[Cited in the opinion of the court:]

- McCormick v. Talcott, 20 How. 402, 405 [6 Am. & Eng. 410]. p. 334.
 Chicago & N. W. R. R. Co. v. Sayles, 97 U. S. 554, 556 [12 Am. & Eng. 121]. p. 334.
 Clough v. Barker, 106 U. S. 166 [14 Am. & Eng. 211]. p. 335.
 Duff v. Sterling Pump Co., 107 U. S. 636, 639 [14 Am. & Eng. 440]. p. 336.
 Consolidated Safety Valve Co. v. Crosby Steam Gauge and Valve Co., 113 U. S. 157 [15 Am. & Eng. 460]. pp. 336, 348.
 Tilghman v. Proctor, 102 U. S. 707 [13 Am. & Eng. 29]. p. 338.
 Neilson v. Harford, 1 Web. Pat. Cas. 295 [3 Am. & Eng. 190]. p. 338.
 O'Reilly v. Morse, 15 How. 62, 115, 116 [5 Am. & Eng. 483]. p. 339.
 Adie v. Clark, L. R. 3 Ch. Div. 134. p. 341.
 Badische Anilin und Soda Fabrik v. Levinstein, L. R. 24 Ch. Div. 156, 171. p. 341.
 Jupe v. Pratt, 1 Web. Pat. Cas. 146. p. 342.
 Househill Coal and Iron Co. v. Neilson, 1 Web. Pat. Cas. 685. p. 342.
 Proctor v. Bennis, L. R. 36 Ch. Div. 740. p. 342.
 Curtis v. Platt, L. R. 3 Ch. Div. 135. Note. p. 343.
 Clark v. Adie, L. R. 2 App. Cas. 315, 320. p. 344.

Appeal from a decree of the Circuit Court of the United States for the District of Massachusetts, in dismissing a suit in equity for the infringement of letters patent for an improvement in machines for sewing buttons on fabrics.

Reported below, 28 Fed. Rep. 844.

The specifications and drawings of the Morley & Mathison patents referred to in the opinion of the Court are as follows :

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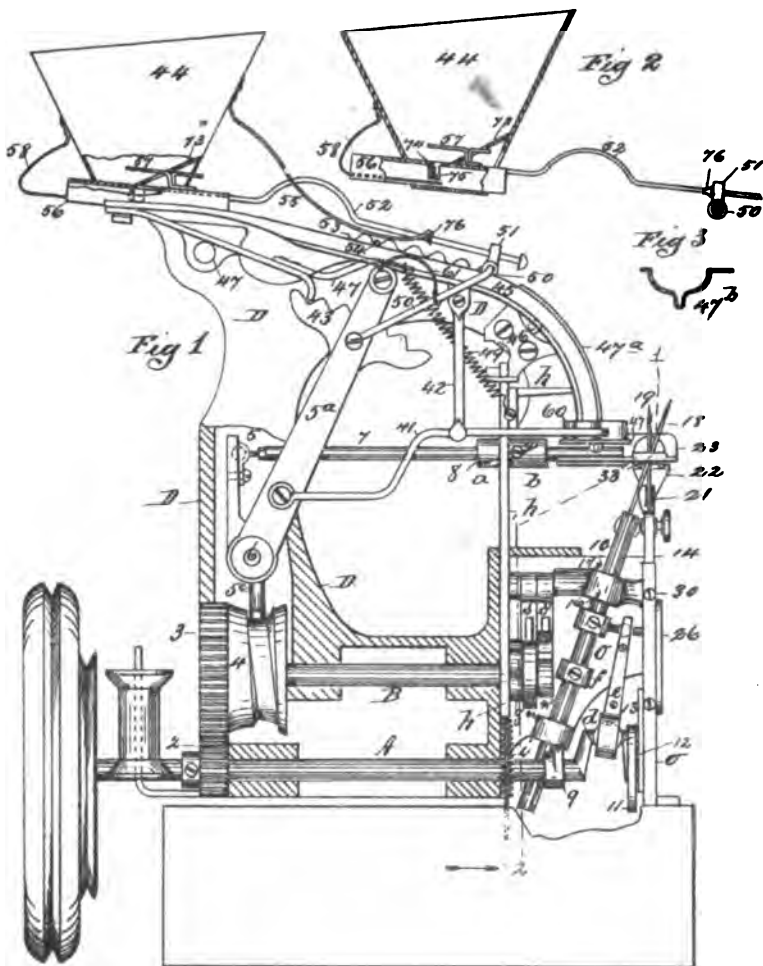
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J. H. MORLEY.

Machine for Sewing Buttons on Fabrics, &c.

No. 236,350.

Patented Jan. 4, 1881.



Witnesses
Wm H. Chapman
G. B. Bell

Inventor
James H. Morley
By Henry A. Chapin
Attorney.

(Model.)

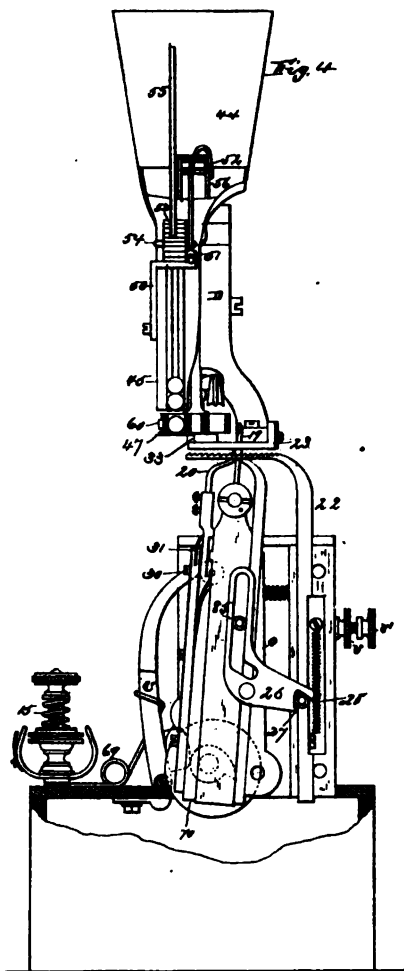
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J. H. MORLEY.

Machine for Sewing Buttons on Fabrics, &c.

No. 236,350.

Patented Jan. 4, 1881.



Witnesses:
F. O. M. Cleary,
A. W. Hanemann.

Inventor
James H. Morley,
By Henry A. Chapin
Attorney

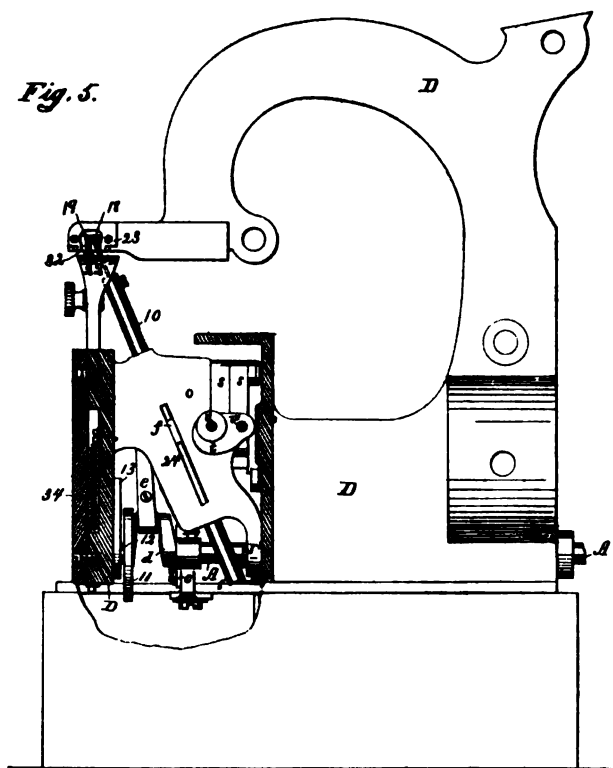


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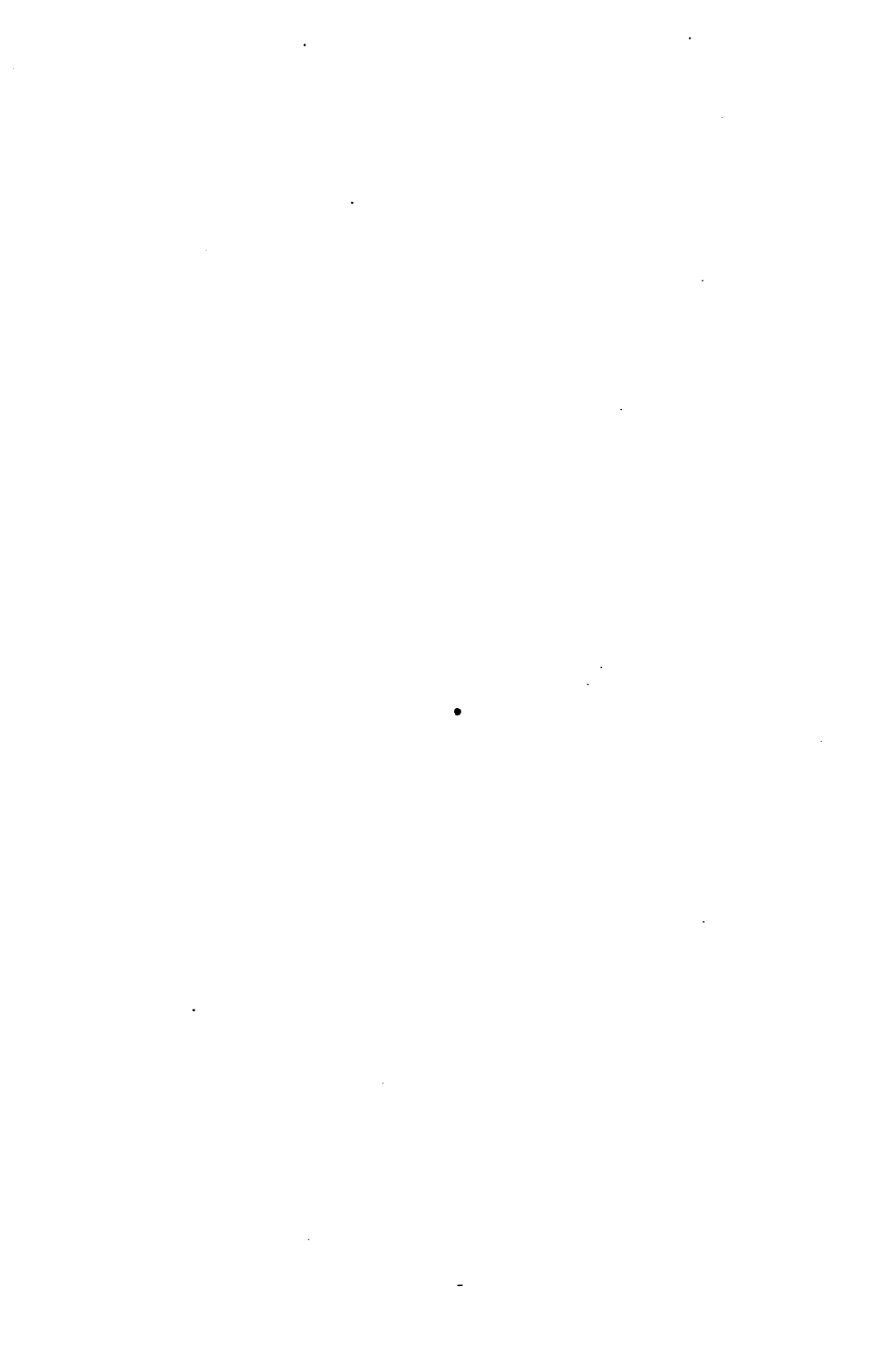
J. H. MORLEY.

Machine for Sewing Buttons on Fabrics, &c.
No. 236,350. Patented Jan. 4, 1881.



Witnesses:
Carter A. Cooper
William Paxton.

Jas. H. Morley.
By his attorneys
H. A. Chapin



(Model.)

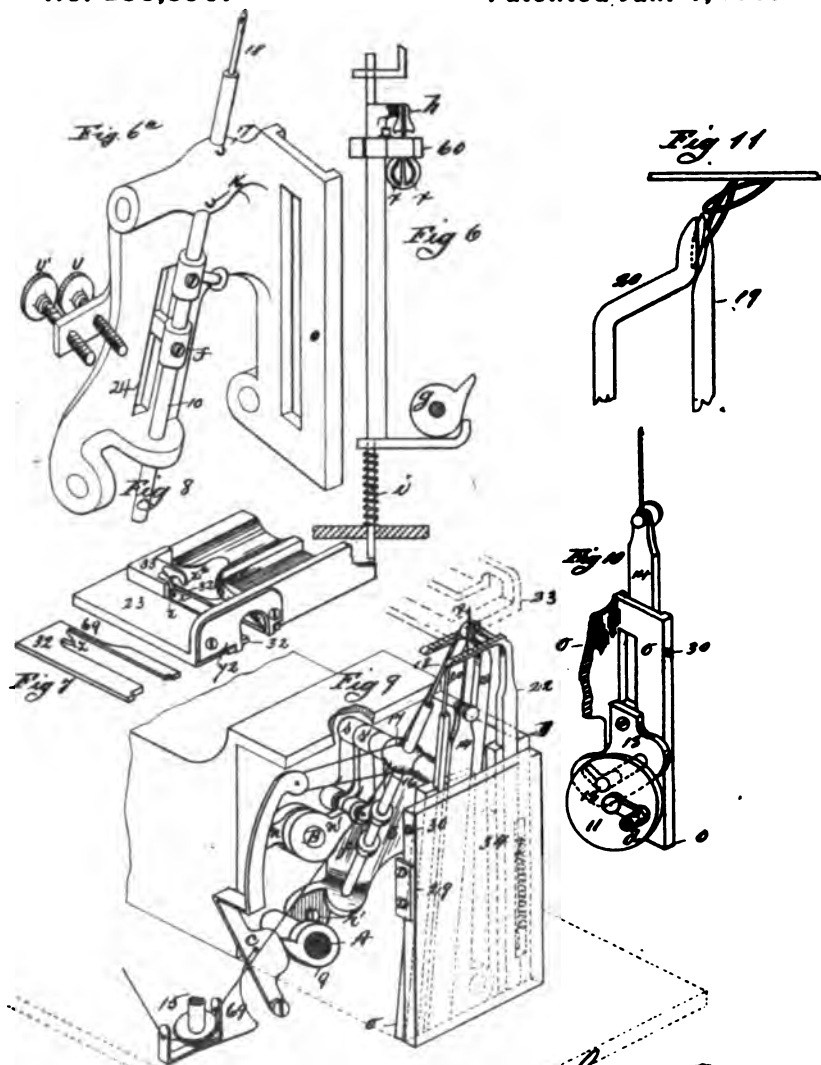
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J. H. MORLEY.

Machine for Sewing Buttons on Fabrics, &c.

No. 236,350.

Patented Jan. 4, 1881.



Witnesses
Wm H. Chapin
G. Rice

Inventor
James H. Morley
By Henry A. Chapin
attorney.

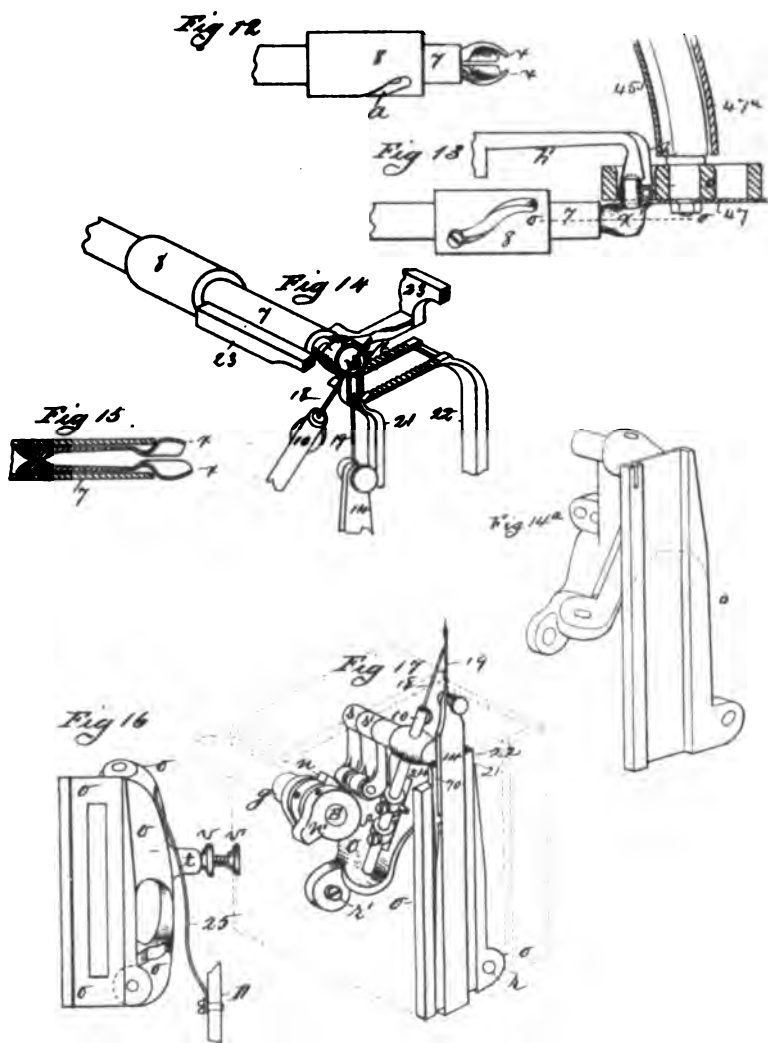


(Model.)

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J. H. MORLEY.

Machine for Sewing Buttons on Fabrics, &c
No. 236,350. Patented Jan. 4, 1881.



Witnesses
Wm. H. Chapin
G. Rice

Inventor
James H. Morley
By Henry A. Chapin
Attorney



(Model.)

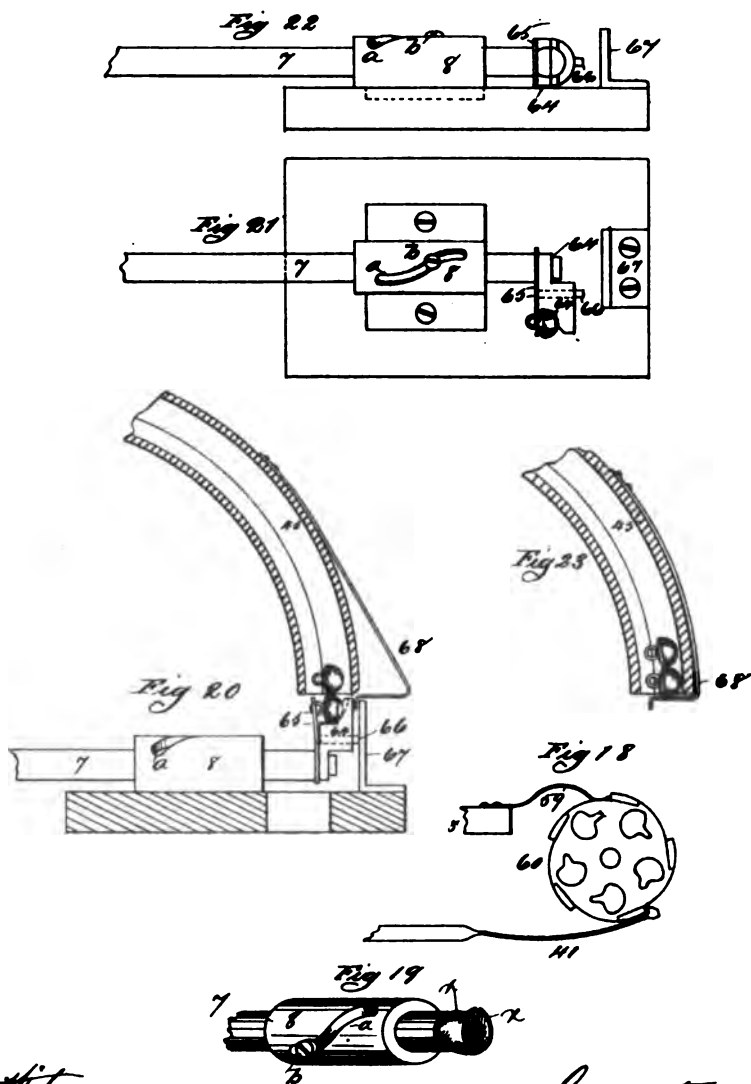
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J. H. MORLEY.

Machine for Sewing Buttons on Fabrics, &c.

No. 236,350.

Patented Jan. 4, 1881.



Witnesses
Wm H Chapin
G. Bill

Inventor
James H. Morley
By Henry A. Chapin
Attorney



(Model.)

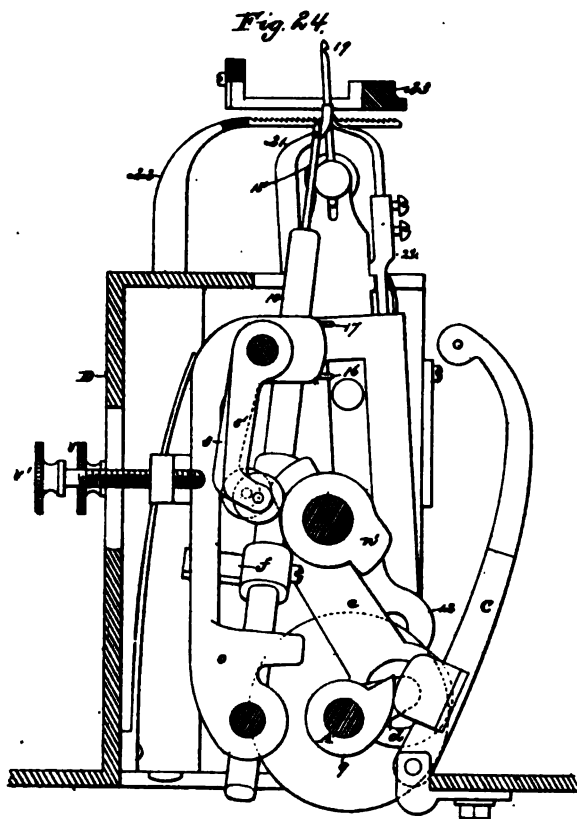
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J. H. MORLEY.

Machine for Sewing Buttons on Fabrics, &c.

No. 236,350.

Patented Jan. 4, 1881.



Witnesses:
J. O. M. O'Leary.
A. H. Koenigsmann.

Inventor
James H. Morley
By Henry A. Chapin
Attorney

statement of the case.

JAMES H. MORLEY, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR OF TWO-THIRDS TO E. S. FAY, OF PORTSMOUTH, NEW HAMPSHIRE, AND HENRY E. WILKINS, OF SPRINGFIELD, MASSACHUSETTS.

MACHINE FOR SEWING BUTTONS ON FABRICS, ETC.

Specification forming part of Letters Patent, No. **236,350**, dated January 4, 1881; application filed June 23, 1880. (Model.)

To all whom it may concern:

Be it known that I, **JAMES H. MORLEY**, a citizen of the United States, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful improvements in machines for sewing buttons on fabrics, etc., of which the following is a specification.

My invention consists in mechanism for automatically sewing shank-buttons on to fabrics, shoes, etc.; and the objects of my invention are to form a double threaded stitch on the top side of the material being sewed upon transversely to the direction of feed, and on the reverse side of the material two parallel lines of stitches at right angles to the first-named ones, to make alternately long and short stitches, and to so feed buttons to be sewed by said machines as to present them at the proper time and in the proper place to be operated upon.

I attain the above-named objects by the devices and construction illustrated in the accompanying drawings, in which—

Fig. 1 is a sectional side elevation of my machine with the take-up and tension removed, including the button-feed, partly in section, the end plate 34, Fig. 5, opposite the driving-wheel, being removed. Fig. 2 is a side elevation of the button-feed hopper and valve, partly in section and the valve-rod in part, and a portion of its operating-arm. Fig.

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3 is a cross-section of the button-feed trough. Fig. 4 is an end elevation of the machine and button-feed, with end plate, 34, and cover 47^a, over the end of trough 45, removed. Fig. 5 is a rear elevation of the machine, partly in section, with the button-feed removed. Fig. 6 is a view of the button-plunger, its operating-cam, the button-turning wheel, and the front end of the button-clamp, showing their operative relations. Fig. 6^a is a rear perspective view of the swinging needle-bar frame and attachments. Fig. 7 is a perspective view of the needle-plate. Fig. 8 is a perspective view of the cloth and needle plates combined, and showing the needle-backer thereon. Fig. 9 is a perspective view, showing the tension device, the take-up and its operating-cam, the swinging needle-bar frame and its operating-cams, the needle-bars, the needles, the presser-foot, the helper bar, the cast-off, and the end plate, 34, of the machine, all in their operative relative positions, and showing the course of the thread from around the tension device to the needle, the needle-plate being partly shown in dotted lines. Fig. 10 is a view of that portion of the swinging needle-bar frame carrying the vertical needle-bar, the cam-plate attached thereto, the disk provided with the crank stud engaging with said cam-plate, and a part of the crank which actuates the inclined needle-bar. Fig. 11 is an enlarged view of the ends of the cast-off and the hooked needle, showing their operative relation to the loops formed in sewing. Fig. 12 is a view of the open side of the button-clamp, the front end of the clamp-carrier, and its spirally-grooved bearing. Fig. 13 is a view of the parts shown in Fig. 12, but with the button clamps turned up to receive a button, showing also a section of the button-turning wheel, the button-plunger, and the bottom of the button-feed trough, showing the relative operative position of said plunger, wheel, and button-clamp, when a button (there shown) has been turned around and is being carried into said clamp. Fig. 14 is a perspective view of the end of the button-carrier and button-clamp turned over and holding a but-

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ton with its shank flatwise toward the vertical needle-point, showing the inclined needle up through the said shank, the vertical needle, the presser foot, and helper bar in their relative positions, and a portion of the needle-plate. Fig. 14^a is a front perspective view of the needle-bar frame. Fig. 15 is a longitudinal section, through line *o o* of Fig. 13, of the front end of the button-carrier and clamps, showing the form of the button-clamps within the carrier and the manner of fastening them therein. Fig. 16 is an end elevation of the swinging needle-bar frame, showing an edge view of an actuating-spring attached to frame D, and the outer ends of two feed adjusting screws working in said frame. Fig. 17 is a view of the swinging needle-bar frame, showing the relative positions of the two needle-bars therein, its pivot-points, the pivoted cam-bearings thereon, and the feed-cams on the end of shaft B, adapted to operate upon said bearings. Fig. 18 is a plan view of the button-turning wheel, with button pockets therein, and showing the end of the wheel-holder and pawl-hook contiguous to said wheel. Fig. 19 is a perspective view of the button-clamp, the forward end of the button-carrier, with its guide-pin, and the spirally-grooved bearing therefor. Fig. 20 illustrates a modified construction of the button-clamp and delivery end of the button-feed trough, showing a flexible button-stop attached to the latter, and showing, also, the receiving position of the modified button-clamp thereunder. Fig. 21 is a plan view of the modified construction of button-clamp, showing it turned over on its side and a button in the clamp. Fig. 22 is a side elevation of the parts shown in Fig. 21. Fig. 23 is a view of the end of the trough shown in Fig. 20, but with the button stop in a position to prevent buttons from dropping out of it. Fig. 24 is a sectional view taken through the line 1 2 of Fig. 1, looking in the direction of the arrow.

Like letters and numbers refer to like parts in the various figures.

Upon a suitable frame, D, I mount a shaft, A, adapted to

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be driven as is any ordinary sewing-machine shaft. Upon said shaft A is fixed a gear, 2, and a cam, 9. Said shaft A has also formed in it a crank, *d*, and on it, beyond said crank, is fixed a crank-disk, 11, in which is fixed a crank-stud, 12.

The gear 2 drives a second shaft, B, through a gear, 3, twice the size of gear 2, fixed to shaft B, which is located above and parallel to the shaft A.

The cam 9 on shaft A operates against the take-up *c* to move it from said shaft, and a spring, 69, throws it in the opposite direction.

The crank *d* in shaft A is connected with a pitman, *e*, by a ball-and-socket joint, to permit said pitman to have a vibratory motion.

The crank-stud 12, which is fixed in the crank-disk 11, engages in the cam-slot in the cam-plate 13, which is secured, through a vertical slot in the swinging needle-bar frame *o*, as seen in Fig. 10, to the vertical needle-bar 14, and reciprocating vertical motion is thereby given to said needle-bar by the revolution of shaft A.

The second shaft, B, has fixed upon it a grooved cam, 4, and three other cams, *g n n'*.

The grooved cam 4, through its engagement with the short arm 5^a of a lever, 5, operates to vibrate an arm, 5^a, fixed on the end of a transverse shaft, 6, rocking in the frame, and to which said lever 5 is secured.

The cam *g* operates to drive down the button-plunger *h* by striking against an arm extending from its vertical portion, as seen in Fig. 6, and a spring, *i*, (there shown), carries the plunger up when released by the cam.

Cams *n* and *n'* operate against adjustable bearing-points on the swinging needle-bar frame *o* to swing it from shaft B with different movements, and a spring, 25, attached to frame D, Fig. 16, operates to throw said frame *o* toward said cams and against a stop, 29, on the edge of plate 34, Fig. 9.

The swinging needle-bar frame *o* is pivoted to frame D at *r'*, Figs. 5, 17, and 9, and to plate 34, Fig. 5, at *r*, which lat-

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ter plate is firmly secured to said frame D. The said needle-bar frame is provided with suitable bearings thereon, as shown, for the inclined needle-bar 10 to slide in, having a slot, 24, Fig. 5, in it directly back of said needle-bar, in which a guide-arm, *f*, attached to the needle-bar, slides to prevent the needle-bar from turning. The end of said frame *o* back of plate 34 is provided with a vertically-grooved face, as seen in Figs. 4, 10, 16, and 17, and in said groove are fitted to slide the flat vertical needle-bar 14, heretofore spoken of, the helper-bar 21, and the cast-off bar 70. In a portion of frame D adjoining said grooved end of the needle-bar frame *o* is the presser-bar, adjusted to slide in a groove in said frame D. A spring, 28, Fig. 4, draws said presser-bar upward.

On the face of the helper-bar 21, and lying against it and the needle-bar, is pivoted a slotted elbow-lever, 26. A pin, 85, set in the needle-bar, as shown, projects through said slot in lever 26, and the end of the horizontal arm of said lever extends over a pin, 27, in the presser-bar.

The operation of the cast-off 20 and its bar 70 relative to the needle-bar 14 is well known, they being used in this connection in wax-thread sewing-machines.

The operation of the needle-bar, the helper-bar, and the presser-bar, in conjunction with the lever 26, applied as shown in Fig. 4, is set forth in the patent of J. A. Davis, dated October 9, 1866, No. 58,614.

For the purpose of properly securing the different feed-actions of the needle-bar frame *o*, as hereinafter explained, adjustable bearing-points *s s'*, against which cams *n n'* strike, are provided, which consist of two arms, as shown, pivoted on frame *o*, in the lower ends of which are placed friction-rollers, against which said cams strike in revolving.

In a projecting block or boss, *t*, on the rear side of frame *o* are placed two feed-adjusting screws, *v v'*, adapted to be screwed against the back sides of the pieces *s s'*, to cause their lower ends to project more or less beyond the side of said frame next to the cams *n n'*.

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The pitman *e*, above mentioned as connected to crank *d* by a ball-and-socket joint, is connected by its upper end with a collar on the inclined needle-bar 10, Fig. 1, by an arm on said collar, provided with a ball which fits a spherical cavity in said pitman, the latter being divided longitudinally into two parts, which are secured together, and upon the crank and said arm on the needle-bar collar by transverse screws, as shown.

On the frame *o* are fixed two thread-guide eyes, 16 and 17, as shown in Figs. 1, 6^a, and 9.

In the vertical needle-bar 14 is secured a hooked needle, 19, and in the inclined needle-bar 10 is secured an eye-pointed needle, which operated with and by the devices herein described, as hereinafter set forth.

The cloth plate 23, Fig. 8, is secured to the frame D over the needles, as shown in Figs. 1, 4, and 5. This plate is provided with a slot cut from near the front edge to the back edge. In suitable grooves formed in the edges of said slot in the cloth-plate is fitted the needle-plate 32, Fig. 7, and there secured by the removable plate 72. Upon the top of the cloth-plate, just at the rear end of the said slot therein, is fixed the needle-backer 33, provided with two short projecting points *z'* *z'*, reaching out over the said slot, and a point, *z*, at the base of the slot in the needle-plate lies under point *z'* of the needle-backer when the said plate is in position, as seen in Fig. 8. The needles pass up in the spaces each side of the point *z'* on the needle-backer.

The purpose of the narrowed part 69 of the needle-plate is explained farther on.

A thread-tension device of ordinary construction is located as shown in Fig. 4.

The lever 5 is connected with the end of a button-carrier, 7, by a ball-and-socket joint, as shown, the said parts being so adjusted one to the other as to allow of the requisite vertical slide in such joint to permit of free movement of the parts while said carrier is moved reciprocally by the

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action of said lever, and to permit the carrier to rotate reciprocally.

A tubular bearing, 8, is fixed on frame D, through which carrier 7 passes, and in said bearing is cut a spiral groove, *a*, and a screw-pin, *b*, is inserted through said groove into the said carrier, so that when the latter is moved back and forth through said bearing carrier 7 is caused to rotate, as aforesaid. In the end of said carrier opposite to lever 5 are fixed two flexible button clamps, *xx*, as shown in Figs. 12, 13, 19, and 15, and provided with a button-socket between their projecting ends, as shown in Fig. 12. Said clamps are secured in a socket formed in the end of carrier 7, as seen in Fig. 15. Their shanks, from their cup portions inward, are flexible, their outer sides being straight. On the inner side of each one, near their rear ends, is formed a thick rounded projection, as seen, forming curved bearings for the rear ends of the clamps one against the other. Through the sides of the carrier, and projecting into the said thick portion of the clamps, are inserted four screws, two into each one, as shown in said Fig. 15. The said button-clamps, when they are in a backward position under the button-turning wheel 60, present their open side under one of the cups in said wheel, ready to take a button, and when moved forward they turn one-quarter over, as seen in Fig. 14, actuated by the above-described devices, which control the movements of carrier 7.

To the arm 5^a is connected a pawl-hook, 41, engaging with a series of teeth formed on the periphery of the button-turning wheel 60. The said wheel is pivoted to frame D and adapted to be revolved in a horizontal plane intermittently by the action of said pawl-hook. Attached to any suitable part of the frame is a spring wheel-holder 59, Fig. 8, adapted to spring behind the teeth on said wheel 60, and prevent it from being revolved backwardly by the forward movement of the pawl-hook. A button-plunger, *h*, whose operating devices have already been described, moves down against a

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button brought around under it by wheel 60, pushing it into the clamp jaws *x x* beneath said wheel.

A button-hopper, 44, Figs. 1 and 2, to receive the buttons to be sewed on, is constructed with an inclined bottom, 73, to cause the buttons to gravitate to the left-hand portion thereof, and in said bottom is cut a passage for the hopper-valve 56 to slide through, said hopper-valve being a short inverted flat-bottomed trough, and above said passage, in said bottom, is a second opening, through which the end of a hopper-valve guard, 57, is moved back and forth with and by the hopper-valve, to which it is attached.

That portion of the top side of the hopper-valve which is exposed under the pile of buttons in the hopper is provided with a single circular opening, 74, and projecting downward from the rear side of this circular opening is a short arm, 75. Attached to the rear side of the hopper, and extending into the end thereof under the arm 75, is a spring hopper-valve bottom, 58, the end of which in the valve is adjustable vertically by bending up and down. When the hopper-valve moves to the left, under the mass of buttons in the hopper, the end of the hopper-valve guard 57, which projects over the opening 74 in the valve, prevents more than one button from passing under it and into the opening in the valve. The spring-bottom 58 is adjusted up or down to give room for a large or small class of buttons. Thus when a button drops through the opening 74, it falls upon the spring-bottom 58, and the returning movement of the valve causes the arm 75 to draw against the button, carrying it out from under the hopper into the straight portion of a feed-trough, 45.

A rod, 52, is secured to the hopper-valve, and passes through a ring, 51, on the end of an arm, 50, which is pivoted to arm 5^a, and, reaching up therefrom to the edge of the trough 45, extends across its top. The end of rod 52 is headed, as shown, and a ring, 76, is fixed on it between the head and the hopper-valve. Thus when arm 5^a is vibrated arm 50 is drawn longitudinally back and forth on

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the upper side of trough 45, causing ring 51 to carry the hopper-valve into the hopper by abutting against ring 76, and to draw it out by striking the head of rod 52. A flexible corrugated strip, 53, is attached pivotally to that portion of arm 50 which lies across trough 45, and has a cross-bar, 54, attached to it to prevent it falling below the edge of the trough, and when arm 50 is moved, as just described, said corrugated strip is moved longitudinally over the buttons in the trough and operates upon them, as hereinafter described.

A light spring, 55, is attached to the hopper, and its free end bears upon the top of the corrugated strip to hold it down.

The hopper-trough 45, to one end of which the hopper 44 is attached, is pivotally secured to frame D at 46, Fig. 1, and is caused to have a limited vibratory movement, in order to facilitate the movement of the buttons, as follows:

A lever, 47, is pivoted on frame D, on one end of which the hopper end of the trough rests, as seen in Fig. 1. A downwardly-bent arm on said lever 47 is arranged to ride on the edge of a serrated segment, 43, secured to arm 5*, and when said arm vibrates the hopper and trough are caused to be shaken for the purpose just stated. A continuation of lever 47 reaches up under the trough, as shown, and thereto is attached a spring, 49, to draw said lever against the segment 43.

A trough cover, 47*, is fixed to frame D, and the end of the trough vibrates slightly under it, for the purpose hereinafter explained.

The operation of my sewing-machine is as follows, viz.: The thread is passed from the spool around the tension device, thence through the guide-eye 16 on the swinging needle bar frame *c*, thence through the end of the take-up, and back through the second guide-eye, 17, on the said swinging frame, and then through the eye of the inclined needle, and the end of the thread is left as in ordinary ma-

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chines. To sew stitches such as are described below, of uniform length, the cam-bearings $s s'$, pivoted on frame o , are adjusted by screws $v v'$, so that each one, when operated upon by its cam n or n' on shaft B, will cause the frame o to be swung an equal distance from the center of said shaft B. To sew alternately long and short stitches, either one of said cam-bearings may be adjusted by said screws to cause the needle-bar frame to be swung alternately more and less. The eye-pointed needle is a common Howe sewing-machine needle, and rises through the fabric, the supply-side of it coming against the back-up, which throws the loop in the opposite direction for the hook-needle to take it. The eyed needle is retracted slightly to cause a loop to be formed on the side of it opposite the back-up, as in any ordinary shuttle-machine. The vertical hook-needle rises through the material and passes between the needle and the said loop on the side of it. The frame supporting both needle-bars now swings, causing the needles which are up through the materials to feed the latter along between the needle-plate and presser-foot. The hook-needle is in such position that when the eyed needle moves down the thread drawn by the take-up around the hook-needle will be engaged by the hook. Thus, while one end of the thread is held by the fabric and around the hook-needle, the take-up draws from the spool the requisite quantity of thread for this stitch, yielding the thread up as the hook returns back through the fabric with the loop. The hook now draws the loop down through the fabric and between it and the loop cast-off. The take-up has now let off the thread, and the swinging needle-bar frame now returns to its starting point, actuated by spring 25. The helper-bar begins to rise in advance of the hook-needle against the under side of the fabric, the presser-foot descending simultaneously with the rising of said bar. The latter holds the cloth against the needle-plate while the hook-needle passes through it, and remains against it while the hook-needle draws out, when the presser-foot returns

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against the fabric, holding it in position, while the swinging frame returns to its starting-point, as aforesaid. The hook-needle penetrates the fabric at a point some distance to one side of the eye-pointed needle, so that the aforesaid movements of the stitching devices produce the first stitch, carrying the thread from one perforation to the other across the upper face of the material in a line transverse to the direction in which the latter is being fed. In forming the next stitch the loop of the first stitch, which was drawn down through the fabric, as above described, is held by the hook-needle. The eye-pointed needle now moves upward, drawing its thread-supply from the slack portion of the thread between the tension device and the needle; the hook-needle, around the barbed end of which the first loop still is, follows it in the manner described in making the first stitch, but passing through the said loop. The cast-off follows the upward movement of the hook-needle and passes between the loop of the first stitch and the hook-needle. The hook-needle now descends, as before described, drawing the loop of the second stitch back of the cast-off and down through the loop of the first stitch, which is held open for that purpose by the cast-off. The hook-needle continues to descend, carrying the loop with it, until its point is below the point of the cast-off. The latter then follows, moving down and casting off said loop of the second stitch onto the loop of the prior stitch, as shown in Fig. 11, thereby making a common loop-stitch, the loop of the last stitch being held by the hook-needle, as aforesaid, ready for a succeeding stitch. The said stitch is a double-threaded transverse stitch on the top side of the material, and on the under side thereof there are two parallel lines of stitching.

The hereinbefore-described construction of the take-up devices of this machine operate, conjointly with the swinging frame, to draw such an amount of thread as may be required for the stitch which the machine may be adjusted to make, be it longer or shorter, or alternately long and short

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stitches, and such conjoint operation is as follows: My take-up begins to draw the thread when the eye of the eyed needle leaves the fabric, the swinging frame, when the take-up so draws, being at its farthest point from the starting-point or stop, and finishes drawing the thread before the swinging frame begins to return to its said starting-point, and as the said frame and take-up now swing toward each other the thread is slacked up and left free for the above-described operation of the hook upon it. The swing of the take-up is uniform, but the points of resistance—*i. e.*, the said two thread-guide eyes on the swinging frame, through which the thread draws in two lines—assume positions at varying distances from the swinging end of the take-up, according to the length of the needle-feed movement, thus causing the length of the thread drawn by the said conjoint action of these elements to be proportionate to the length of the stitch.

To form stitches of different lengths, such as are adapted to sew buttons onto shoes, and so form them to lock the button-stitch into the fabric that the portion of the thread which secures the button shall not be liable to slip, and to feed to the machine automatically shoe-buttons, and cause them to be sewed onto leather or other material at the requisite distances apart, the machine and button-feeding devices operate as follows: The screws *v v'* are turned against the pivoted cam-bearings *s s'*, as above described, so as to cause the cams *n' n* to act upon the swinging frame so that the swinging movements thereof are alternately short and long. The shoe-buttons are fed into the hopper 44, and they fall, one by one, into the hopper-valve 56, through the hole 74 in the top thereof, the action of these parts being properly timed to operate with the sewing-on devices so as to supply a button from the hopper to the feed-trough as often as one is delivered from the lower end of the latter. The shaking of the hopper and feed-trough by the above-described devices, together with the inclined position of the

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trough, causes the buttons to gravitate toward the delivery end of the trough. When the buttons first emerge from the hopper-valve, they lie in the upper flat-bottomed portion of the trough in various positions; but as they pass along to and over that part of it having the V-shaped groove along its bottom, midway between its sides and under the corrugated strip 53, any buttons whose shanks may not have fallen into said V-shaped groove are turned over by said strip in its reciprocating movements, compelling them all to assume a uniform position—*i. e.*, all with their faces up and their shanks in said groove edge to edge. This action of the corrugated strip upon the buttons to place them is owing to the fact that there is room for the buttons to pass under said strip if they are in proper position in the groove, and not be hit by it; but if they lie on their sides or faces they cannot pass under it without being hit by it and turned over. Thus the buttons pass toward the delivery end of the trough 45, the lower end of which has a continuous vibratory motion against the fixed cover 47^a, preventing the moving column of buttons from clogging in their passage and allowing them to drop freely from the end of the trough.

As above described, the button-turning wheel 60 is located under the end of the trough and over a fixed bottom, 47, cut away on one edge to allow the button-carrier 7 to pass under it, and to let a button pass from a pocket in the wheel to the clamp jaws. Said wheel receives the buttons, one by one, into its pockets, and is turned so far around, after receiving a button and before delivering it, as to cause the shank of that button to lie toward the needles instead of from them, as it did when first dropped into the wheel. When said button has been by said wheel carried around under the button-plunger *h*, the latter will descend, pushing said button through the wheel between the jaws *x x* of the button-carrier, which lie open directly under the pocket in the wheel from which the button has been so conveyed to

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tnem, and, slightly forcing said jaws apart, the button is there held, its shank still in the same position as when it was in the trough, so far as the opening through its eye is concerned. The button-carrier now moves forward, turning as it moves, carrying the button forward and turning it one-quarter over, so that the opening through its shank is moved over the point of the eyed needle beneath it, with its narrow portion lying upon the thin part 69 of the needle-plate, Fig. 7, and its head upon the material back of it, the shank lying under the projections z' z'' of the needle-backer 33, its outer side lying between the said projections z' of the backer and z of the needle-plate. Thus the shank is, in a measure, clamped flatwise between said points, which co-operate with the clamp-jaws of the button-carrier to hold the button firmly while the eyed needle passes up through the fabric and the eye of the button-shank.

The above description explains the operation of the machine in conveying a button from the hopper onto the leather or fabric, ready to be sewed on.

In operating the machine to sew on buttons, the operator places the leather between the presser-foot and needle-plate, as heretofore described, and makes a stitch through it before sewing through the shank of the button, this stitch being for the purpose of locking the end of the thread in the leather. The machine now feeds for a short stitch, the button being placed upon the leather, as just described, and the eyed needle passes up through the shank of the button, and the hooked needle, passing up outside of the button shank and operating as aforesaid, engages with the loop above the button-shank. The machine now feeds the distance required between the buttons; after which the stitch is completed, as aforesaid, and in this case a double thread is drawn down over the button-shank, fastening it there firmly, and the said operations are repeated. The direction of feed of the machine being from the needle-backer 33, the buttons pass out between the sides of the slots in the needle

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and cloth-plates, which lead to the outer edge thereof. The formation of the stitch on the material in a line transverse to the direction of feed of the machine permits the employment of a needle-plate, as described, having in it a slot constituting a clear passage from the point between the needles where the stitch is formed to the outer edge of the needle-plate.

Figs. 20, 21, and 22 show a modified construction of the button clamp on the end of the button-carrier 7, and illustrate the manner of making a clamp to operate to take a button from the end of the button-feed trough when the latter terminates at the right of the needles, there being attached to the trough a flexible button-stop, 68, and to the machine a stop-plate, 67, to co-operate with the parts of the button-clamp to deliver buttons to the latter and to cause the release of the button when it is carried over the needles to be operated upon. This construction dispenses with the use of the button-turning wheel 60 and its operating devices, and also with the button-plunger *h*, and operates as follows:

The button-carrier 7 is operated as already described, carrying the button-clamp under the end of the feed-trough, as seen in Fig. 20. In so moving, the clamp-head 64 strikes against the end of the button-stop 68, springing it away from under the button-column in the trough, and allowing a button to drop between the head and a spring, 65, the latter having been bent back, as seen in Fig. 20, to allow the button to drop freely there between. Said spring 65 is bent into the position seen in Fig. 20 by the impingement of pin 66 against the stop-plate 67, and upon the return movement of the carrier 7 backward spring 65, which is slotted to let the shank of the button project through it, as shown, springs against the button, holding it firmly, and the carrier retires and rolls over into the position seen in Fig. 21, letting the stop 68 spring across the end of the trough, and bringing the shank of the button flatwise over the needles, in proper position to be operated upon by them, and when it is sewed on the feed

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movement of the leather will cause the button to be drawn out of the clamp.

Having thus described the machine and constructions set forth in the drawings, I wish it to be understood that the same is only one of different mechanisms which I have contemplated, and which may be effectually employed for carrying out the main feature of my invention—to wit, the automatic mechanical sewing of buttons to a fabric. Thus different means may be adopted for carrying the thread through the eye of the button into the fabric—as, for instance, passing the hooked needle through said eye to a position to seize the thread from the straight needle or form a suitable carrier and then draw the loop down through the fabric to be secured beneath by a shuttle or needle thread, or the eye-pointed needle may be used in connection with a loop-spreader and shuttle for carrying a thread through the loop, a single thread or two threads being used. It will further be understood that wires may be sometimes substituted for threads and that other feed mechanisms may be employed, the needles moving with, but not controlling the fabric, as in the construction described.

I claim—

1st. The combination, in a machine for sewing shank-buttons to fabrics, of button-feeding mechanism, appliances for passing a thread through the eye of the buttons and locking the loop to the fabric, and feeding mechanism, substantially as set forth.

2d. The combination, in a machine for sewing shank-buttons to fabrics, of a needle and operating mechanism, appliances for bringing the buttons successively to positions to permit the needle to pass through the eye of each button, and means for locking the loop of thread carried by the needle to secure the button to the fabric, substantially as set forth.

3d. The combination, in a sewing machine, of two independent needle-bars, needles, and operating devices, a movable

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frame carrying both needle-bars at an angle to each other, and arranged, as described, so that the needles shall penetrate the cloth at different points on lines transverse to the line of feed, substantially as set forth.

4th. The combination, with the frame D, needle-bar frame o, pivoted to frame D, and adjustable cam-bearings *s s'*, of the shaft B, cams *n n'*, on said shaft, and a suitable spring to swing said frame o toward said cams, substantially as and for the purpose set forth.

5th. The combination, with the needle-bar frame o, of the needle-bars 10 and 14, the eyed needle 18, the hook-needle 19, and the cast-off 20, helper-bar 21, presser-foot 22, elbow-lever 26, and devices for operating said parts, substantially as and for the purpose set forth.

6th. The combination, with swinging needle-bar frame o and the needle-bars 10 and 14, of the crank *d*, shaft A, and the studded crank-disk on said shaft, pitman *e*, and the cam-plate 13, substantially as and for the purpose specified.

7th. In a needle-feed sewing-machine, the combination, with the needle-plate 32 and the presser-bar operating in the frame of the machine, of the needle-bar frame o, needle-bars 10 and 14 and their needles, the helper-bar 21, and cast-off 20, adapted to be oscillated by and with the needle-bar frame, and actuating mechanism, substantially as and for the purpose described.

8th. The combination, in a machine for sewing buttons to fabrics, of button-feeding and sewing appliances, substantially as set forth, and feeding appliances and operating mechanism whereby the feeding devices are moved alternately different distances to alternate short button-stitches with long stitches between the buttons, as specified.

9th. The combination, with the frame D, swinging needle-bar frame o, the needle-bars 10 and 14, and their needles carried thereby, said frame o being provided with the thread-guide eyes 16 and 17, and adapted to swing in frame D with different degrees of oscillation, of the thread take-up *c*,

Statement of the case.

adapted to swing with regular vibratory movements, and appliances for operating the frame *o*, needle-bars, and take-up, substantially as and for the purpose set forth.

10th. The combination, with the cloth-plate 23, having a slot from one edge inwardly therein, as shown, of the slotted needle-plate 32, constructed with the projection *z* at the base of its slot, and the narrow side 69 at one side thereof, and the needle-backer secured to the top of said cloth-plate, and provided with the projections *z'* and *z''*, substantially as and for the purpose set forth.

11th. The needle-plate 32, constructed with an unobstructed passage in it, as shown, from the point between the needles where the stitch is formed to the outer edge thereof, combined with devices for feeding buttons above said plate, and a presser foot below the same, substantially as and for the purpose specified.

12th. The combination, with cam 4, shaft B, lever 5, and shaft 6, of the button-carrier 7, having pin *b* therein, and having the clamp-jaws *x x* secured in one end thereof, and the spirally-slotted bearings 8, substantially as and for the purpose set forth.

13th. The combination, with button sewing appliances, of a trough, appliances for carrying the buttons successively from the trough to the sewing devices, and mechanism for operating said appliances and sewing devices, as set forth.

14th. The combination, with the frame D and button-feed trough 45, pivoted to frame D, of the lever 47, spring 49, and the serrated segment 43, arm 5^a, and operating mechanism, substantially as and for the purpose described.

15th. The combination, with the trough 45, provided with the longitudinal channel 47^b, adapted to the reception of the shanks of the buttons therein, as shown, of the corrugated strip 53, provided with the cross-bar 54, and mechanism for imparting a reciprocating longitudinal movement to the strip over the said trough, substantially as and for the purpose described.

Statement of the case.

16th. The combination, with the hopper-valve 56, of the headed valve-rod 52, provided with the ring 76, the arm 50, provided with the ring 51, and the arm 5^a, and mechanism for vibrating said arm, substantially as and for the purpose set forth.

17th. The combination, with the hopper and feed-trough, of the corrugated strip 53 and the spring 55, secured to the hopper 44, and devices for reciprocating said strip, substantially as and for the purpose set forth.

18th. In combination, the hopper 44, provided with the inclined bottom 73, having openings therein, as shown, the hopper-valve provided with the guard 57, the opening 74, and the arm 75, mechanism for operating the hopper-valve, and the spring valve-bottom 58, substantially as and for the purpose set forth.

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Witnesses :

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JOSEPH MATHISON, OF LYNN, MASSACHUSETTS,
ASSIGNOR TO HIMSELF AND WILLIAM D. ALLEN,
OF SAME PLACE, AND C. B. LANCASTER,
OF BOSTON, MASSACHUSETTS.

MACHINE FOR SEWING ON BUTTONS.

Specification forming part of Letters Patent, No. 268,369,
dated November 28, 1882; application filed August 1, 1882.
(No model).

To all whom it may concern :

Be it known that I, JOSEPH MATHISON, of Lynn, in the county of Essex and State of Massachusetts, have invented

Statement of the case.

certain Improvements in Machines for Securing Buttons to Material, of which the following is a specification.

This invention has for its object to provide a machine adapted to secure a series of buttons to a boot or shoe, or other article by a continuous thread or cord, in such manner that each button will be independently attached, so that if the cord should break or be severed between the buttons the attachment would not be affected.

The invention is intended to provide means for carrying into effect the improved method of attaching buttons described in my application for letters patent of the United States filed March 18, 1882, Serial No. 55,723, said method consisting essentially in drawing a primary loop of thread through the material to which the button is to be attached and also through the eye of the button, then drawing a secondary loop through the material and through the primary loop outside of the eye of the button, tightening the primary loop, and finally passing the secondary loop over the button and tightening said loop, thereby interlocking both loops and forming a square knot, one loop or bight of which passes through, and the other around the eye of the button.

Of the accompanying drawings, forming a part of this specification, Fig. 1 represents a perspective view of a portion of a machine embodying my invention. Figs. 2, 3, 4, 5, and 6 represent similar views, illustrating different stages of the operation. Figs. 7, 8, 9, 10, 11, and 12 represent the position of the button and the loops securing it at different stages of the operation. Fig. 13 represents a side view of the loop-spreaders before they separate to spread and lower the loop. Fig. 14 represents a front view of the same. Fig. 15 represents a front view of the spreaders depressed and separated. Fig. 15^a represents a back view of the same. Fig. 16 represents a section on line *x x*, Fig. 15. Fig. 16^a represents a side view of the loop-spreaders in position shown in Figs. 15 and 16. Fig. 17 represents a perspective view of the wedge which separates the spreaders. Fig. 18 represents

(No Model.)

6 Sheets—Sheet 1.

J. MATHISON.
MACHINE FOR SEWING ON BUTTONS.

No. 268,369.

Patented Nov. 28, 1882.

Fig. 1.

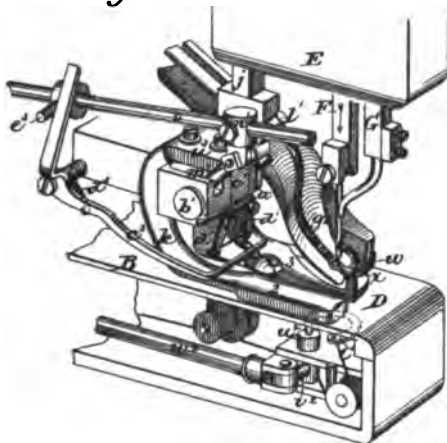


Fig. 2.

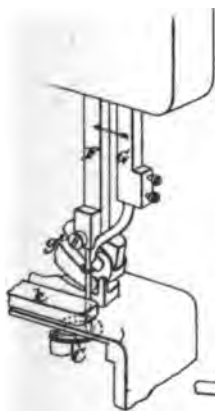


Fig. 3.

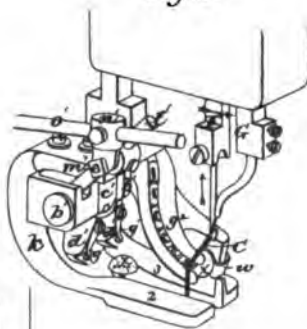
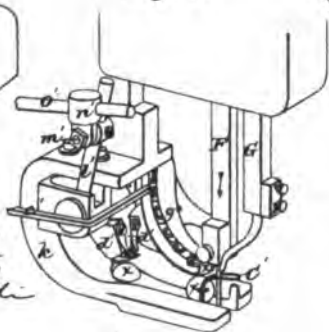


Fig. 4.



Witnesses:
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(No Model.)

6 Sheets—Sheet 2.

J. MATHISON.

MACHINE FOR SEWING ON BUTTONS.

No. 268,369.

Patented Nov. 28, 1882.

Fig. 5.

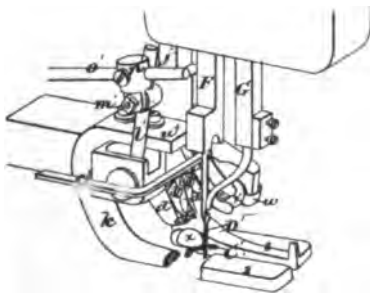


Fig. 6.

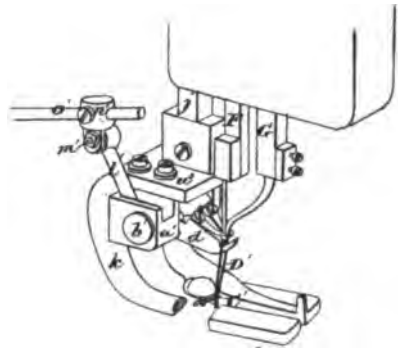


Fig. 7.

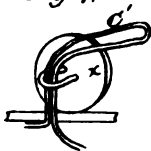


Fig. 8.

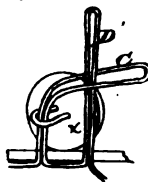


Fig. 9.



Fig. 10.

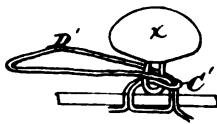


Fig. 11.

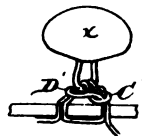


Fig. 12.



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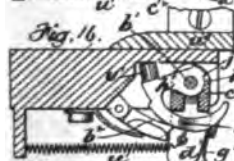
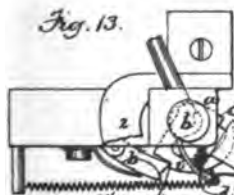
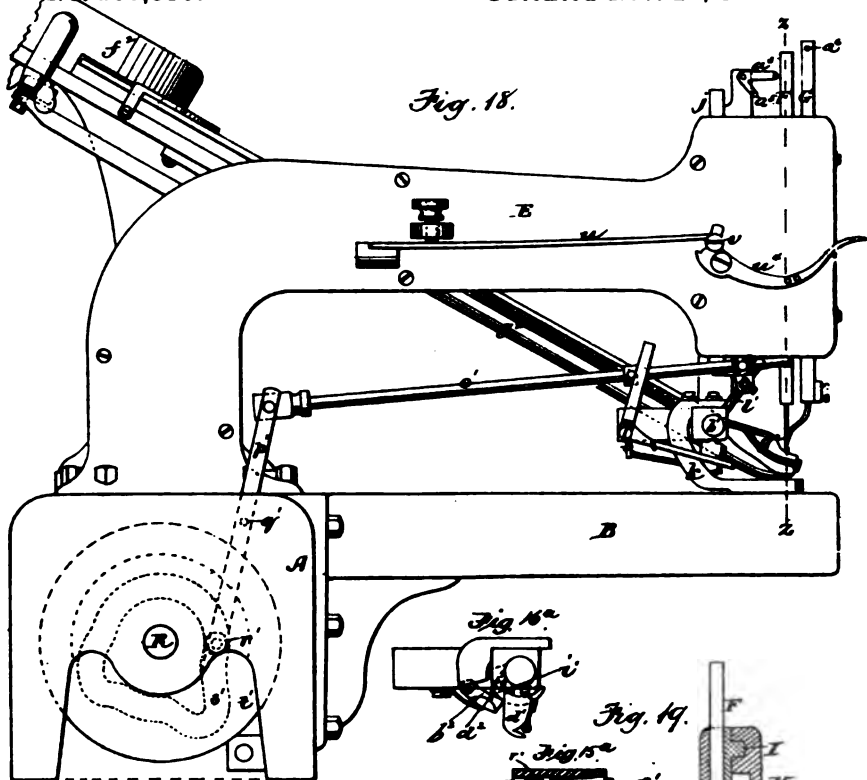
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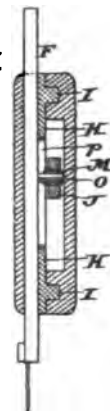
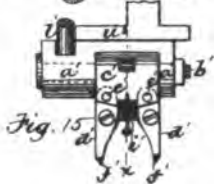
J. MATHISON.
MACHINE FOR SEWING ON BUTTONS.

No. 268,369.

Patented Nov. 28, 1882.



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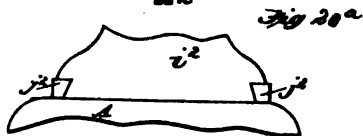
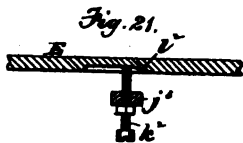
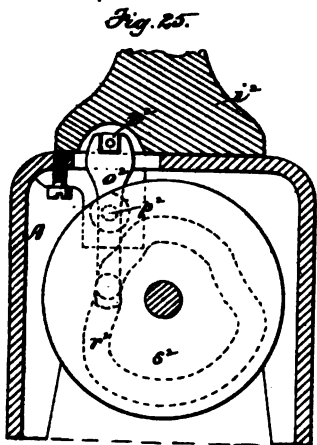
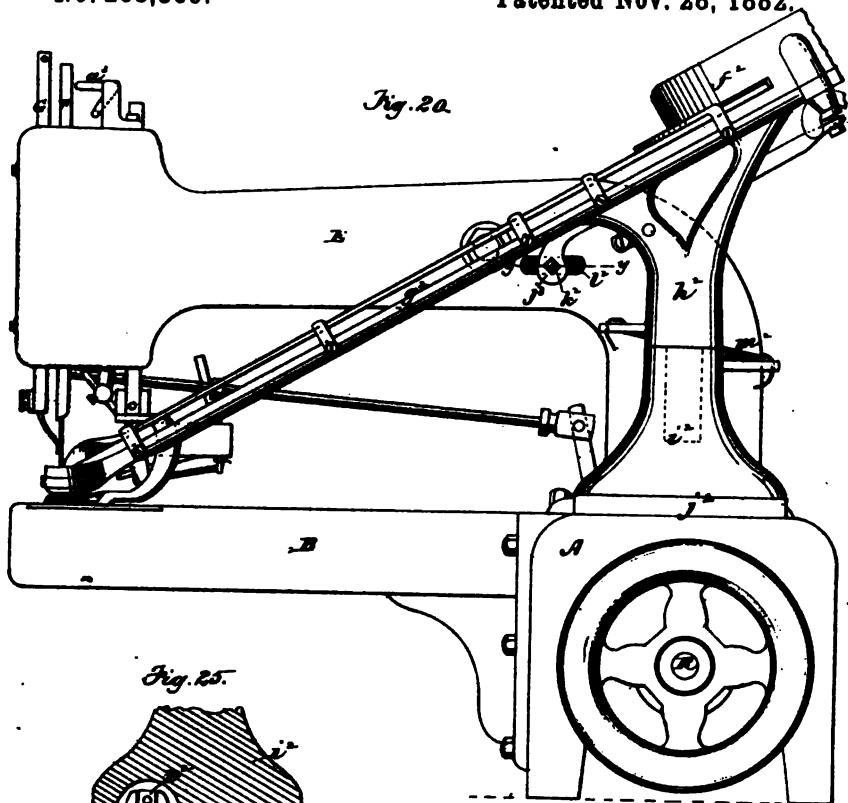
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J. MATHISON.
MACHINE FOR SEWING ON BUTTONS.

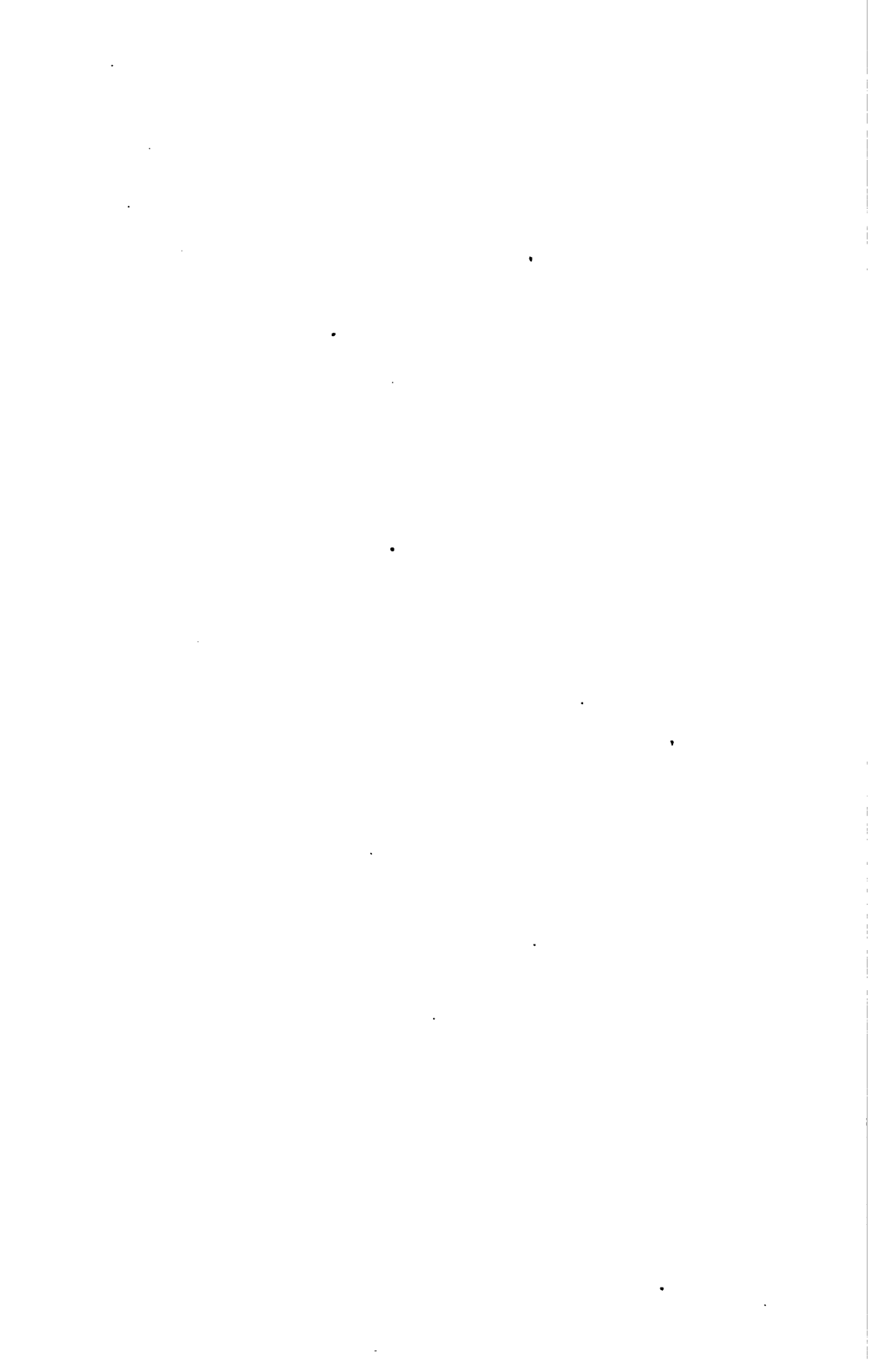
No. 268,369.

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(No Model.)

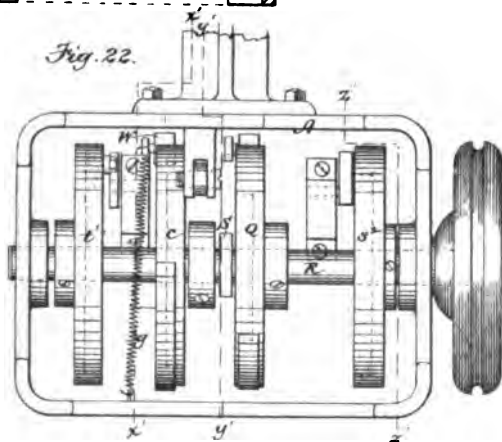
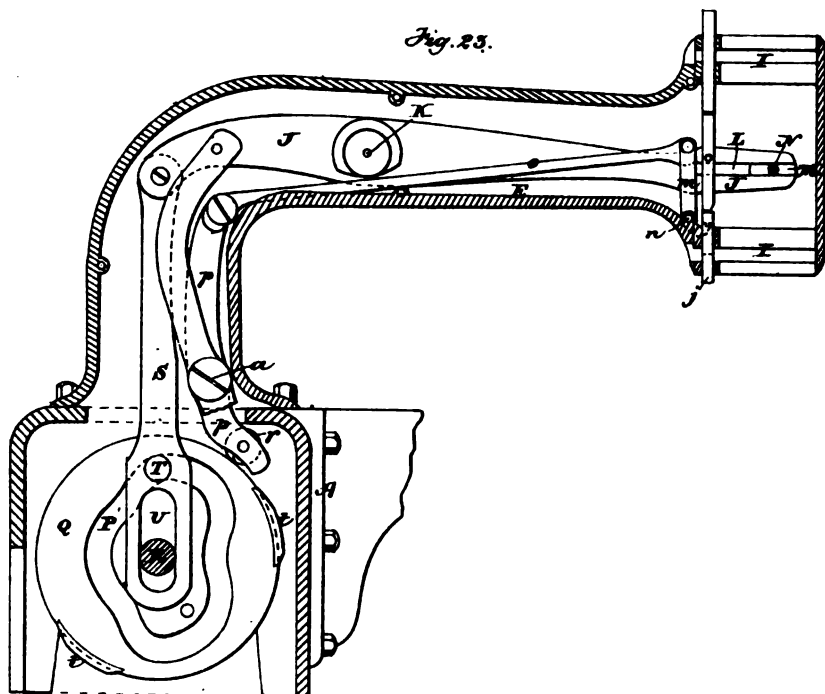
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J. MATHISON.

MACHINE FOR SEWING ON BUTTONS.

No. 268,369.

Patented Nov. 28, 1882.

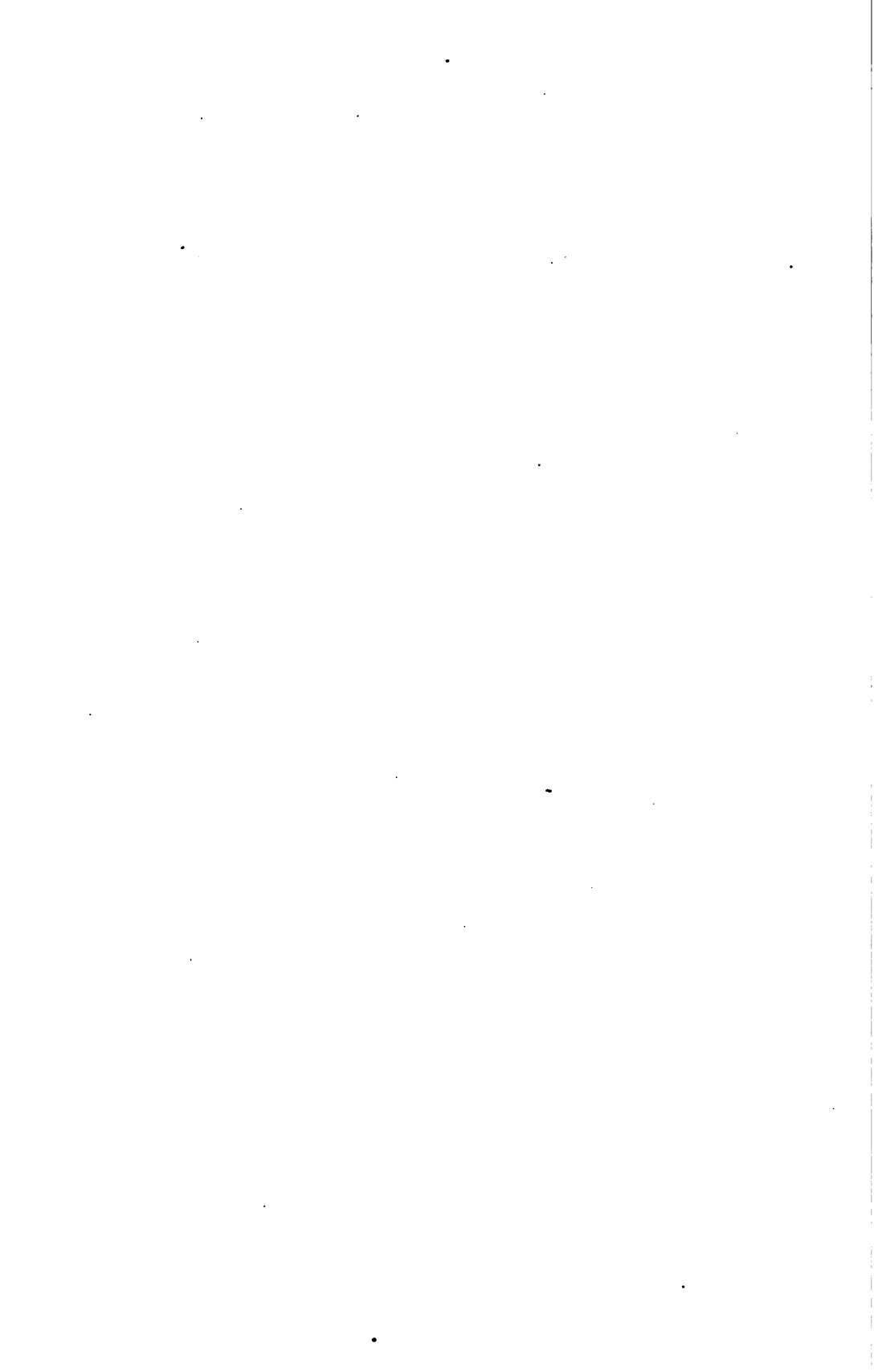


Witnesses:

Joseph Custer
A. L. White

Inventor:

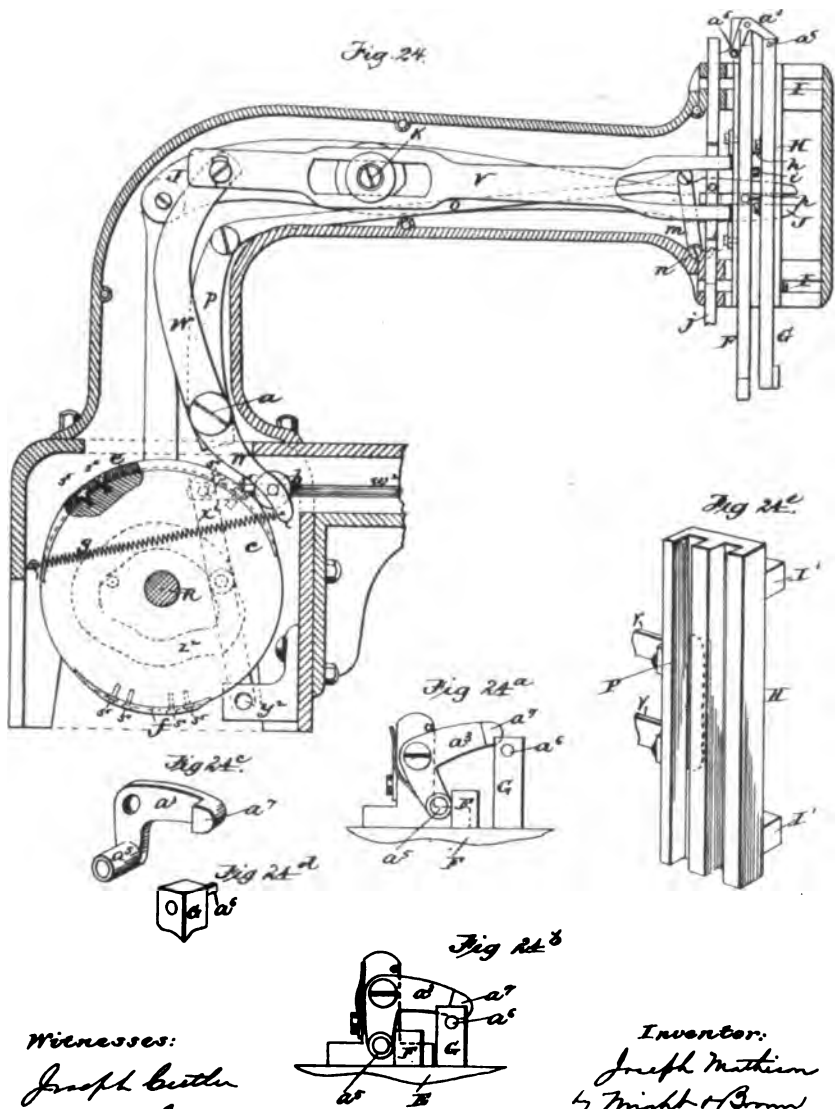
Joseph Matheson
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(No Model.)

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J. MATHISON.
MACHINE FOR SEWING ON BUTTONS.
No. 268,369. **Patented Nov. 28, 1882.**



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Statement of the case.

a side elevation of the entire machine. Fig. 19 represents a section on line $z z$, Fig. 18. Fig. 20 represents an elevation of the opposite side of the machine. Fig. 20^a represents a rear view of a portion of the machine, showing the lower portion of the raceway, supporting a standard and its guides. Fig. 21 represents a section on line $y y$, Fig. 20. Fig. 22 represents a bottom view. Fig. 23 represents a section on line $x' x'$, Fig. 22, and a side elevation of the arm of the machine with its side and parts of its mechanism removed. Fig. 24 represents a section on line $y' y'$, Fig. 22, and a side elevation of the arm of the machine with its side removed. Figs. 24^a, 24^b, 24^c, 24^d, and 24^e represent details. Fig. 25, Sheet 4, represents a section on line $z' z'$, Fig. 22.

The same letters of reference indicate the same parts in all the figures.

In carrying out my invention, I provide a suitable supporting-frame, A, having a narrow elongated work-supporting arm, B, preferably horizontal, and of such size as to enable the upper of a boot or shoe to be drawn upon it, and allow said upper a free movement laterally of the arm. Said arm B is hollow and contains a vibratory thread-carrier, C, and suitable tension devices.

Above the thread-carrier is a needle-plate, D, forming a part of the upper surface of the arm, and provided with a slot, s^a , extending longitudinally of the arm, to permit the needle hereinafter described, to pass downwardly through the needle-plate, and move longitudinally of the arm to feed the material while depressed.

E represents the neck or arm, supporting the needle, presser, and cast-off bars, and located over the work-supporting arm B.

The needle-bar F and cast-off bar G are directly supported in a carrier, H, which is provided with ribs $I' I'$, adapted to reciprocate horizontally in guides or ways $I I$ (see Figs. 24 and 24^a) in the neck E. The carrier H is provided with a substantially-horizontal arm, V, to the outer end of which is

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pivoted a lever, W, said lever being pivoted at *a* to the neck E, and provided with a roller, *b*, at its lower end, which bears upon the periphery of a disk, *c*, on the driving-shaft R, said disk having two projecting cams, *e f*. The lever W is held in yielding contact with the periphery of the disk *c* and its cams by a spring, *g*, and is oscillated by said cams and springs, thereby reciprocating the carrier H horizontally, the latter being moved inwardly from the outer end of the neck E by each cam, and outwardly by a spring. The cam *f* is shorter and has less outward projection than the cam *e*, and therefore gives the carrier H an inward movement, which is of less extent and shorter duration than that imparted by the cam *e*. The movements imparted respectively by the cams *f* and *e* to the carrier H, produce what are hereinafter termed "primary" and "secondary" lateral or feed movements of the needle, while the latter is in the material.

The needle-bar F is provided with a stud or pin, O, which projects through a vertical slot, P, in the carrier H and enters an orifice, N, in a slide, M, which is fitted in a slot, L, in an oscillating lever, J. Said lever is pivoted at K to the neck, and is oscillated vertically by means of a cam-groove, P', in a disk, Q, on the driving shaft R, and a connected rod, S, having a stud or roller, T, entering said cam-groove. The connecting-rod S has a slot, U, through which the shaft R passes. The needle-bar F is thus reciprocated vertically, the slide M in the lever J enabling said bar to be reciprocated vertically while at any point to which it is moved laterally.

The cast-off bar G is provided with two projections, *h h*, between which is a stud, *i*, attached to the needle-bar, said stud having a considerable independent movement between the projections *h h*, so that as the needle-bar rises and falls the stud *i* moves the cast-off bar to a limited extent in the same directions, the movements thus imparted causing the cast-off to be operated in the usual manner in casting off the primary loop, as hereinafter described; but as it is necessary to give the cast-off an independent downward

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movement while the needle is depressed and moving laterally during the secondary feed movement, before alluded to, I provide at the top of the neck E a bell-crank lever, a^2 , pivoted to an arm on the neck, and so located that when the needle-bar is making its secondary or longer feed movement the upper end of said bar will strike a projection, a^1 , on one arm of the lever a^2 , as shown in Fig. 24^a, and turn said lever on its pivot, thereby pressing its other arm, which has a projection, a^1 , downwardly on a pin or stud, a^3 , on the cast-off bar, and depressing the latter, as shown in Fig. 24^b, just before the needle-bar rises at the completion of the outward or feed movement.

The presser-bar j is provided with an elongated presser-foot, k , composed of two arms, 2 3, connected by a block or enlargement, u^1 , to which the presser-bar is attached, and separated by slot, l , extending longitudinally of the work-supporting arm and coinciding with the slot s^1 in the needle-plate D. The sides of the slot l are formed to support the head of the button x , of the kind shown, in an upright position with its edge or shank projecting downwardly into said slot, so that when the secondary loop is pulled in, as hereinafter described, it will necessarily inclose the shank of the button.

The work-holding arms or branches, 2 3 are curved upwardly at their rear ends, and the curved portions are separated from each other by a much wider space than the slot l , so that the attached button can pass freely back from the presser-foot, either in the direction of the length of the work-supporting arm or diagonally. This arrangement enables a shoe-upper, to which the buttons are attached in a curved row, to be freely fed along without obstruction of the attached buttons by the presser-foot, said buttons moving diagonally back from the presser-foot. The presser-bar is raised to permit the work to be fed by the lateral movements of the needle by a bell-crank lever, m , pivoted at n to the neck E, and connected by a rod, o , to a lever, p , which is

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pivoted at *a*, and has a roller, *r*, bearing on the periphery of the disk *Q* on the shaft *R*, said disk having the cam-groove *p'* in its side.

The disk *Q* has two cam-projections, *t t*, which act alternately on the roller *r*, and swing the lever *p* in the direction required to raise the presser-bar. A spring, *u*, on the outside of the neck *E*, bearing on a stud, *v*, projecting from the presser-bar, presses downwardly on said bar and the presser-foot, and forces the latter down upon the work when the cam *t* ceases to act on the lever *p*.

A hand-lever, *u'*, is pivoted to the outer surface of the neck *E*, to enable the operator to raise the presser-foot independently. The presser-foot is provided at its upper end with an enlargement, *u'* having ears *a' a'*, in which is journaled a rod or arbor, *b'*, having between the ears *a' a'* an enlargement or collar, *c'*, rigidly secured to said rod or arbor.

d' d' represent arms pivoted at *e' e'* to the collar *c'*, and adapted to swing on their pivots toward and from each other. These arms, which I term "loop-spreaders," are provided at their swinging ends with hooks *f' f'*, and on their front sides with spring-fingers *g' g'*, said hooks and fingers co-operating in grasping a loop or thread, as hereinafter described.

h' represents an arm journaled on the rod *b'*, so as to turn independently thereon, and provided with a curved wedge, *i'*, adapted to be inserted between the spreaders *d'* and separate the same, as shown in Figs. 1, 3, 15, and 16. The collar *c'* is cut away or slotted centrally to receive the arm *h'*, and the slot terminates at one side of said arm in a shoulder, *k'*, adapted to bear against a corresponding shoulder, *j'*, formed on the arm.

The rod *b'* is provided with an arm, *l'*, connected by means of an adjustable trunnion, *m'*, with an adjustable socketed ear, *n'*, on a rod, *o'*, which extends backwardly and is pivoted to a lever, *p'*, the latter being pivoted at *q'* to the frame *A*,

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and provided with a roller, r' , entering a cam-groove, s' , in a disk, t' , on the driving-shaft.

The rod b' is oscillated by means of the cam-groove s' and the intermediate devices, the cam-groove being formed, as shown, to give the rod the following movements, viz.: The spreaders being directly under the collar to which they are pivoted, as shown in Figs. 1, 3, 15, and 16, and being held apart from each other by the wedge i' , the spreaders are next moved forward, leaving the wedge, which is held in the position shown by a spring, u' , which holds a leather buffer, v' , on the arm h' against the bottom of the enlargement u^3 of the presser-bar. Each spreader is provided with a spring, a^2 , which is secured at one end to the block c' and at the other end to the spreader, as shown in Fig. 15^a, and presses the spreader inwardly, so that as the spreaders pass forward beyond the wedge and upward they close inwardly, as shown in Figs. 13 and 14. Before the spreaders complete their forward movement the shoulder k' on the collar c' comes in contact with the shoulder j' on the wedge-arm h' , and causes the wedge to move forward with the spreaders, the latter remaining closed, however, in advance of the wedge. When the wedge is thus moved forward a spring-dog, b^2 , pivoted to an extension of the enlargement of the presser-foot, engages automatically with a tooth, c^2 , on the rear portion of the wedge, as shown in Fig. 13, and locks the wedge in the position shown, so that it is ready to separate the spreaders on their return or downward movement. The spreaders having entered a loop of thread, as hereinafter described, are next moved backwardly and downwardly, and during said movement are separated by the wedge, as shown in Figs. 1, 2, 15, and 16. When the spreaders have nearly completed their downward movement an arm, d^2 , attached to the collar c' , strikes a lateral projection on the dog b^2 , as shown in Fig. 16^a, and disengages the dog from the tooth of the wedge, the latter, under the influence of the spring u' , resuming its original position. (Shown in Figs. 16 and 16^a).

Statement of the case.

The time of the described movements of the spreaders with relation to the movements of the needle is more particularly described in the general operation of the machine.

f^2 represents the button-reservoir, and g^2 the inclined raceway leading therefrom. The raceway is curved inwardly at its lower end, and is given a quarter-twist, so as to present the eyes of the buttons sidewise to the needle, as shown in Fig. 1. The raceway is formed to permit the buttons to be drawn from its end, instead of being drawn out laterally, as in my patent No. 252,117, dated January 10, 1882. The lower end of the raceway is provided with a yielding spring, w , which projects partly across the raceway, and bears against the lower buttons, and constitutes a yielding stop, holding each button therein in succession until said button is withdrawn from the raceway, as described hereinafter. The raceway is supported with the reservoir on a post composed of two sections, h^2 and i^2 . The lower end of the section h^2 , to which the reservoir and raceway are directly attached, is journaled on the section i^2 , which is adapted to slide horizontally in guides j^2 on the frame A. The raceway is therefore adapted to oscillate laterally of the work-supporting arm and to reciprocate longitudinally thereof. The pivoted section h^2 is provided with an arm, j^3 , having a screw, k^2 , on its outer end bearing against the side of the neck E. The neck is provided with an inclined or diagonal surface, l^2 , over which the screw k^2 passes when the raceway is moved longitudinally. A spring, m^2 , extending from a stud on the section h^2 to a stud on the section i^2 , draws the raceway inwardly toward the neck E. When the raceway is moving backwardly from the outer end of the work-supporting arm its screw k^2 , in passing over the diagonal surface l^2 , is forced outwardly, thereby swinging the raceway outwardly. The swinging and longitudinal movements of the raceway cause the delivering or lower end of the raceway to move diagonally from the position it occupies when presenting a button to the needle, as shown in Fig. 1, to the position it occupies

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after the button has been withdrawn from the raceway, as shown in Figs. 4 and 5. The sectional post $h^2 i^2$ is reciprocated in its guides by means of a lever, o^2 , pivoted at p^2 to the frame A, engaged at its lower end by a roller with a cam-groove, r^2 , in a disk, s^2 , on the driving-shaft, and at its upper end with a block, f^2 pivoted to the section i^2 , the upper end of the lever being bifurcated to embrace the block f^2 .

The thread-carrier, which operates in the usual manner, is supported in a vertical rock-shaft, u^2 , having an arm, v^2 , which is connected by a rod, w^2 , with a lever, x^2 , which is pivoted at y^2 to the frame A, and has a roller engaged with a cam-groove, z^2 , in the disk c on the driving shaft, said devices oscillating the carrier and causing it to alternately hold the thread away from and press it against the hook side of the needle.

Operation: The button-raceway being in position, as shown in Fig. 1, the eye of the lower button, x , is held under the needle. The needle descends through the eye of the button, the material, and the needle-plate. The needle then makes its shorter or primary feed movement while down. At the same time the thread-guide swings around to press the thread against the hook side of the needle. The needle is then raised and draws a primary loop, C' , through the eye of the button, as shown in Fig. 3. Then the needle is moved back to its first position, passes down through the first loop, as seen in Fig. 4, outside the eye of the button, through the material and the needle-plate. While the hook of the needle is perforating the material, the raceway is moved backwardly, and the loop C' is then caused to pull the last button past the yielding spring w and out of the raceway, as shown in Fig. 4. The needle then makes its longer or secondary feed movement, and the thread-guide again moves to press the thread against the hook of the needle. While the needle is making its secondary feed movement the cast-off is moved down to the material by the arm a^3 and casts off the loop C' . The needle rises, and as it rises draws up a secondary loop,

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D', through the first loop, as shown in Fig. 5. The operation of drawing the secondary loop entirely up tightens the primary loop, as shown in Figs. 6 and 9. The needle then drops enough to free the hook from the cast-off, so as to release the loop from the hook of the needle. The spreaders swing toward the needle at the same time, and the hooks of the spreaders, which are now close together, enter the loop as soon as the loop is released from the hook of the needle. The forward swinging movement of the spreaders after the hooks enter the loop is sufficient to deflect or bend the loop away from the needle. The spreaders then commence to recede from the needle, and at the same time are separated at their hooked ends, thus spreading the loop into a triangular form, and carrying it over the head of the button, as shown in Figs. 1 and 10. The springs *g'* serve to hold the loop upon the hooks during their receding and separating movements. While the loop D' is being opened and carried over the head of the button the needle is moved to its original position, and at the same time the raceway returns to its original position, so as to present its lower button to the needle. The needle then descends through the eye of the lower button in the raceway, engages with the thread, which is again presented to it by the thread-carrier, and draws up another primary loop through the eye of said lower button. The operation of drawing up the last-named loop draws in the secondary loop previously drawn over the preceding button, drawing said loop inwardly and interlocking it with the primary loop of said button, thus forming the square knot which secures the button to the material, as shown in Fig. 11. The above-described steps are taken in the attachment of each button.

*c*² represents a bent arm, which is pivoted to the extension of the upper part of the presser-foot, and is held by a spring, *d*², against an adjustable stud, *e*², on the rod *o'*. One end of said arm, *c*³, projects in front of the spreaders, and is raised and lowered by the action of the rod *o'* and spring *d*². The

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arm c^3 is brought down upon the secondary loop while said loop is in the position shown in Fig. 1, and prevents the loop from rising and failing to be drawn under the button when it is tightened by the operation of drawing up the succeeding primary loop, as above described, in case the springs $g' g'$ release the loop before it is tightened, or if from any cause the loop has a tendency to rise above the button it is intended to aid in securing.

I do not limit myself to the employment of the arm a^3 , however, as it is only intended as an auxiliary device to guard against the accidental loosening of the loop.

I do not limit myself to the particular devices shown for forming the knot which attaches the buttons, as said devices may be variously modified without departing from the spirit of my invention.

The cams $e f$, which impart the primary and secondary feed movements to the needle, are made adjustable as to their projection from the periphery of the disk, c , to which they are attached, so that the length of said feed movements, or either of them, can be varied, as may be desired. To this end each of said cams is attached to the disk c by screws $s^4 s^4$, the heads of which are countersunk in the outer surfaces of the cams and screws $s^5 s^5$, whose heads are provided with flanges countersunk in the inner surfaces of said cams, as shown in Fig. 24. The screws s^4 hold the cams to the disk, and the screws s^5 regulate the approach of the cams to their seats on the disk, the cams being movable toward and from the disk.

I claim—

1st. In a machine for attaching buttons, the combination of button-feeding mechanism, and mechanism for first drawing a primary loop of thread through the material and the eye of a button; secondly, drawing a secondary loop through the material and through the primary loop outside the eye of the button; thirdly, throwing the secondary loop over the head of the button and finally forming said loops into a square-knot, as set forth.

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2d. In a machine for attaching buttons, the combination of loop-forming mechanism, button-feeding mechanism whereby a button is presented to the needle of the loop-forming mechanism, means for imparting to said needle the primary and secondary feed movements described, whereby first the primary and secondary loops are drawn respectively through and outside of the eye of the button, and, secondly, the material with the partially-attached button is advanced, and devices for spreading and depressing the secondary loop after the material is advanced, to cause said loop to inclose the button and hold it until tightened by the subsequent action of the loop-forming mechanism, as set forth.

3d. In a machine for attaching buttons, the combination of button-feeding mechanism, a longitudinally-slotted presser-foot, a loop-forming mechanism, means for imparting to the needle and cast-off of the loop-forming mechanism, the primary and secondary lateral movements described, means, substantially as described, for vertically reciprocating the cast-off at different points in its lateral movements, and loop-spreading devices, all arranged and operated substantially as described.

4th. The presser-foot composed of two connected arms separated by a longitudinal slot, the sides of which are adapted to support a button, and having an enlarged rear opening to permit the passage of an attached button, as set forth.

5th. The combination, with the button-feeding and loop-forming mechanism, of the loop-spreaders and mechanism for inserting said spreaders into the secondary loop, and depressing and separating them to depress and spread said loop, as set forth.

6th. The combination of the rod *b'*, having an enlargement or collar, mechanism for oscillating the same, the spreaders pivoted to said collar and pressed inwardly by springs, the wedge *i'*, journaled on the rod, and drawn backwardly by a spring, *u'*, the shoulders *j' k'*, arranged as described, whereby the spreaders are moved forward and in advance of the

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wedge, and the latter is subsequently moved with the spreaders, a dog, b^2 , to lock the wedge, and an arm, d^2 , to disengage the dog from the wedge when the spreaders move backwardly, as set forth.

7th. The combination, with the loop-spreaders, of the auxiliary loop-holding arm and mechanism for raising and lowering the same, as set forth.

8th. The raceway pivoted to a longitudinally-movable support, i^2 , combined with means for oscillating the raceway and moving it longitudinally, as set forth.

9th. The combination of the raceway, the section h^2 , supporting the raceway, the longitudinally-movable section i^2 , having a pivotal connection with the section h^2 , mechanism, substantially as described, for reciprocating the section i^2 and the parts supported thereby, and the fixed incline l^2 , the arm or device k^2 on the section h^2 , bearing against said incline, and the spring m^2 , whereby the raceway is oscillated when moved longitudinally, as set forth.

10th. The combination, with the needle and cast-off bars, of the carrier H, guiding said bars and horizontally movable in fixed guides, means for giving said carrier first a short and then a longer reciprocating movement, mechanism, substantially as described, for reciprocating the needle-bar vertically, devices on the needle and cast-off bars causing the operation of the latter by the vertical movements of the needle-bar, and an independent device operated by the longer lateral movement of the needle-bar to depress the cast-off bar, as set forth.

11th. The combination of the carrier H, reciprocated horizontally, as described, the needle and cast-off bars guided and moved laterally by the carrier, the oscillating lever J, having a slot, L, a slide, M, in said slot engaged with a stud on the needle-bar, the projections h h on the cast-off bar, and the interposed stud on the needle-bar, whereby the cast-off is operated during the vertical movements of the needle-bar, and the lever a^3 , pivoted to a fixed support

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and operated by the longer lateral movement of the needle-bar, to depress the cast-off, as set forth.

12th. The raceway formed to permit the removal of the buttons from its end and adapted to be moved longitudinally and laterally, as described, combined with the spring *w*, projecting partly across the end of the raceway and adapted to hold the lower button with a yielding pressure, as set forth.

13th. The combination, with the loop-forming mechanism, of the movable raceway adapted to present the eye of the last button it contains to the needle, and to hold the button while a loop is being drawn through the eye thereof by the needle, and mechanism for moving the raceway backwardly while the said loop is held by the needle, thereby withdrawing the button from the raceway, as set forth.

14th. In a machine for securing buttons, the combination, with the loop-forming and feeding mechanism, of the narrow elongated work-supporting arm adapted to permit the free lateral and longitudinal movement of a boot or shoe upper, and the presser-foot having a slot adapted to support a button while it is being attached, and an enlarged rear opening to permit the passage of the attached buttons, as set forth.

15th. The combination, with the laterally-movable needle, of the cams *e f*, and intermediate devices for moving the needle laterally, said cams being adjustable so as to regulate the feed movements of the needle, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 29th day of July, 1882.

JOSEPH MATHISON.

Witnesses:

C. F. BROWN,

A. L. WHITE.

The facts are stated in the opinion.

Mr. BENJAMIN F. THURSTON, for appellants: •

The original inventor will have a right to treat as infring-

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ers all who make machines operating on the same principles, and performing the same functions by analogous means or equivalent combinations.

Chicago & N. W. R. Co. v. Sayles, 97 U. S. 556 [12 Am. & Eng. 121]; Clough v. Barker, 106 U. S. 167 [14 Am. & Eng. 211]; Duff v. Sterling Pump Co. 107 U. S. 639 [14 Am. & Eng. 440]; Consolidated Safety Valve Co. v. Crosby Steam Gauge & Valve Co. 113 U. S. 159 [15 Am. & Eng. 460]; Am. Whip Co. v. Lombard, 4 Cliff. 507; Dunham v. Kimball, 17 Fed. Rep. 810; United Nickel Co. v. Pendleton, 15 Fed. Rep. 745; Tilghman v. Proctor, 102 U. S. 708 [13 Am. & Eng. 29]; The Telephone Cases, 126 U. S. 1 [18 Am. & Eng. 1].

Messrs. J. E. MAYNADIER and GEORGE E. SMITH for appellee:

Defendant's machine does not infringe, unless it contains all the elements of the Morley combination, or their equivalents or substitutes, within the meaning of the patent law.

Proufy v. Ruggles, 16 Pet. 341 [4 Am. & Eng. 351]; Eames v. Godfrey, 1 Wall. 78 [7 Am. & Eng. 158]; Dunbar v. Myers, 94 U. S. 187 [11 Am. & Eng. 59]; Gage v. Her-ring, 107 U. S. 640 [14 Am. & Eng. 454]; Gould v. Rees, 15 Wall. 187 [9 Am. & Eng. 39]; McMurray v. Mallory, 111 U. S. 103 [15 Am. & Eng. 171]; Gill v. Wells, 22 Wall. 1 [9 Am. & Eng. 471]; Brown v. Davis, 116 U. S. 237 [16 Am. & Eng. 212]; Sargent v. Hall Safe & Lock Co. 114 U. S. 63 [15 Am. & Eng. 573].

The stitching mechanisms are substantially and radically different.

Fay v. Cordesman, 109 U. S. 408 [13 Am. & Eng. 1]; Union Water Meter Co. v. Desper, 101 U. S. 332.

The scope of letters patent cannot be enlarged by the language used in other parts of the specification.

Lehigh Valley R. Co. v. Mellon, 104 U. S. 112, 118 [13

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Am. & Eng. 200]; *Western Electric Mfg. Co. v. Ansonia Brass & Copper Co.* 114 U. S. 447 [16 Am. & Eng. 94].

Results are not patentable, but only specific mechanism or combinations of mechanism to accomplish results.

Seymour a. Osborne, 11 Wall. 516 [8 Am. & Eng. 290]; *O'Reilly v. Morse*, 15 How. 119 [5 Am. & Eng. 488]; *Burr v. Cowperthwait*, 4 Blatch. 163-167; *Am. Pin Co. v. Oakville Co.* 3 Blatch. 190; *Fuller v. Yentzer*, 94 U. S. 288 [11 Am. & Eng. 138]; *Werner v. King*, 96 U. S. 230 [11 Am. & Eng. 419]; *Case v. Brown*, 2 Wall. 320 [7 Am. & Eng. 360]; *Union Paper Bag Machine Co. v. Murphy*, 97 U. S. 120 [11 Am. & Eng. 494]; *Worden v. Searles*, 121 U. S. 14 [17 Am. & Eng. 16]; *Sharp v. Reissner*, 119 U. S. 631 [16 Am. & Eng. 501]; *Grier v. Wilt*, 120 U. S. 412 [16 Am. & Eng. 558]; *Snow v. Lake Shore & M. S. R. Co.* 121 U. S. 617 [17 Am. & Eng. 76]; *Electric R. R. Signal Co. v. Hall R. Signal Co.* 114 U. S. 87 [16 Am. & Eng. 1].

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought November 6, 1882, in the Circuit Court of the United States for the District of Massachusetts, by the Morley Sewing Machine Company and the Morley Button Sewing Machine Company against Charles B. Lancaster, for the alleged infringement of letters patent, No. 236,350, granted January 4, 1881, to James H. Morley, E. S. Fay and Henry E. Wilkins, on the invention of said Morley, on an application filed June 23, 1880, for an improvement in machines for sewing buttons on fabrics. The machine of the defendant is constructed in accordance with the description contained in letters patent, No. 268,369, granted November 28, 1882, to Joseph Mathison, William D. Allen, and C. B. Lancaster, on the invention of said Mathison, for improvements in machines for securing buttons to material, on an application filed August 1, 1882.

The specification of the Morley patent says:

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"My invention consists in mechanism for automatically sewing shank buttons on to fabrics, shoes, etc., and the objects of my invention are to form a double-threaded stitch on the top side of the material being sewed upon, transversely to the direction of feed, and on the reverse side of the material two parallel lines of stitches at right angles to the first named ones, to make alternately long and short stitches, and to so feed buttons to be sewed by said machines as to present them at the proper time and in the proper place to be operated upon." The specification then describes, by reference to twenty-four figures of drawings, the mechanical means used by the patentee to perform the mechanical operations described. The specification then proceeds: "Having thus described the machine and constructions set forth in the drawings, I wish it to be understood that the same is only one of different mechanisms which I have contemplated, and which may be effectually employed for carrying out the main feature of my invention, to wit: the automatic mechanical sewing of buttons to a fabric. Thus, different means may be adopted for carrying the thread through the eye of the button into the fabric, as, for instance, passing the hooked needle through said eye to a position to seize the thread from the straight needle, or form a suitable carrier and then draw the loop down through the fabric to be secured beneath by a shuttle or needle thread, or the eye-pointed needle may be used in connection with a loop spreader and shuttle for carrying a thread through the loop, a single thread or two threads being used. It will further be understood that wires may be sometimes substituted for threads, and that other feed mechanisms may be employed, the needles moving with, but not controlling, the fabric, as in the construction described."

There are eighteen claims in the patent, only four of which are relied upon by the plaintiffs, namely: claims 1, 2, 8, and 13, which are as follows: "1. The combination, in a machine for sewing shank buttons to fabrics, of button-

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feeding mechanism, appliances for passing a thread through the eye of the buttons and locking the loop to the fabric, and feeding mechanism, substantially as set forth. 2. The combination, in a machine, for sewing shank buttons to fabrics, of a needle and operating mechanism, appliances for bringing the buttons successively to positions to permit the needle to pass through the eye of each button, and means for locking the loop of thread carried by the needle to secure the button to the fabric, substantially as set forth." "8. The combination, in a machine for sewing buttons to fabrics, of button-feeding and sewing appliances, substantially as set forth, and feeding appliances and operating mechanism whereby the feeding devices are moved alternately different distances to alternate short button stitches with long stitches between the buttons, as specified." "13. The combination, with button-sewing appliances, of a trough, appliances for carrying the buttons successively from the trough to the sewing devices, and mechanism for operating said appliances and sewing devices, as set forth." The defendant's machine is known as the Lancaster machine.

The Morley machine contains and is made up of three main groups of instrumentalities: (1) mechanism for holding the buttons in mass, and delivering them separately, in proper position, over the fabric, so that they may be attached to it by the sewing and stitching mechanism; (2) the stitching mechanism; (3) the mechanism for feeding the fabric along, so as to space the stitches and consequently the buttons when sewed on.

In the button-feeding mechanism, there is a hopper containing the buttons in mass. The principal use of the machine is to sew buttons on to the uppers of buttoned boots, and the button designed to be used is one having a round ball affixed to a shank, which terminates in an eye. On the bottom of the hopper is a hopper valve, which picks out the buttons one by one and delivers them into an inclined trough. This trough has a V-shaped groove along its bottom, mid-

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way between its sides, and the buttons enter the upper part of the trough with their shanks in all directions, and it becomes necessary to turn them over, so that the eyes will lie in the groove while the bodies of the buttons occupy the trough. The contrivance for accomplishing this consists of a flexible, corrugated strip of metal, lying over the top of the trough, and oscillated by proper machinery, which by contact with the bodies of the buttons, will roll them over so that their eyes will lie in the groove. After the buttons are thus arranged, they slide down the trough, being aided to do so by a jarring motion imparted to the latter. When they arrive at its lower end, which is bent so as to be nearly vertical, they lie with their heads towards the front of the machine, that is the side farthest from the driving pulley. In one modification of the machine, the buttons are held in the trough by a button-wheel, which is mounted on a vertical axis, and is provided with pockets, each capable of receiving a button, and admits of being intermittently revolved at proper times. This button wheel is used: (1) to close the bottom of the trough; (2) to receive buttons into its pockets; and (3) by its own revolution, to turn the buttons around, so that their eyes will lie towards the front of the machine. In order to prevent the buttons from falling out of the pockets, the button wheel rests upon a stationary table, which closes the bottoms of all the pockets but one. When a button arrives over the notch in the table, it has been turned around, on a vertical axis, 180° ; but, as a plane passing through its eye is then vertical, it must be turned on a horizontal axis through 90° , so that its eye may lie flat, in order that the needle, which ascends from beneath, may pass through the eye. Therefore, when a button arrives over the notch in the table, a plunger or punch descends into the pocket and drives the button into a button carrier, which lies at that time immediately under the notch, and under the pocket into which the punch enters. When the button enters the carrier, a plane passing through its eye is still vertical,

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and the carrier therefore turns around on a horizontal axis 90° , to bring the eye of the button into such a position that it can be entered by the needle, and, as the carrier turns, it retracts, so as to bring the eye into such a position that a plane passing through it will be horizontal, and the needle will readily enter it. The patent describes a modified form of the contrivances for bringing the button into a position for the needle to enter its eye, in which modification the button wheel is dispensed with, and a light spring is applied to the bottom of the trough, to hold up the column of buttons, such spring operating as a spring gate, opened at proper intervals by mechanism, and shutting itself automatically. This mechanism, which also receives the button and turns it around 90° on a horizontal axis, and transfers it to the place where it is to be sewed, is a sort of spring nippers, one of the jaws of which is split so as to receive the shank of the button.

The above contrivances constitute what is called in claim 1, "button-feeding mechanism;" in claim 2, "appliances for bringing the buttons successively to positions to permit the needle to pass through the eye of each button;" in claim 8, "button-feeding appliances;" and, in claim 13, "a trough, appliances for carrying the buttons successively from the trough to the sewing devices, and mechanism for operating said appliances."

In the Morley patent, there is a contrivance for feeding the fabric so as to space the stitches, and consequently to space the buttons. The needles, while inserted in the fabric, move in the direction of the feed, carrying the fabric with them. The motion of the needles or feed is derived from revolving cams, and the two needles swing like an inverted pendulum. This kind of feed was well known in machines for sewing leather, prior to the date of the Morley patent. This feeding contrivance is what is called in claim 1, "feeding mechanism," and in claim 8, "feeding devices."

The Morley patent describes its stitch as being made by

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means of two needles, one eye pointed, like the Howe needle, and the other a hooked or crochet needle, such as is used in machines for sewing leather. These needles are set at an inclination to each other, across the line of the seam, and enter the fabric from beneath, and when they get above it, cross each other. The eye-pointed needle pierces the fabric and carries a bight of thread up above it, and then retreats a little to form a loop by causing the thread to expand away from the needle. During this time, the hooked needle has also penetrated the fabric from beneath, and when the loop is formed, passes between the eye-pointed needle and the thread, and, as both needles descend, the hook catches the thread supplied by the eye-pointed needle, and carries a bight of thread across the fabric and down through it to the under side, thus forming the transverse stitches on the button side of the fabric, the eye-pointed needle being described as passing through the eye of the button, although it is stated that instead the hooked needle may pass through such eye. The passage of the needle through the eye, after it has passed through the fabric, holds the button upon the fabric. When the eye-pointed needle retracts and forms a loop above the eye of the button, a loop spreader is employed to spread the loop; and a shuttle carrying either one thread or two threads is passed through the loop, the eye-pointed needle, in its retraction, carrying, by means of the loop, the thread or threads furnished by the shuttle, and the stitch being the ordinary lock-stitch. The stitch described in the Morley patent as made by eye-pointed and hooked needles, both operating from the lower side of the fabric, and making transverse stitches on its upper side and longitudinal stitches on its lower side, is a stitch known prior to the date of the Morley patent.

In the Lancaster machine there are found combined together the same three main groups of instrumentalities above set forth as being found in the Morley patent. There is in the Lancaster machine a hopper containing the buttons in

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mass, and an inclined surface which supports a column of the buttons, the buttons lying with their shanks up and their bodies down. This hopper is provided with a reciprocating brush, which sweeps over the buttons and rolls them over so that their shanks, pointing upward, will fall into one or another of slits in a metal plate, which covers the inclined flat surface. These slits all converge into a single slit, so that the buttons slide down the various slits and ultimately lie in a single column in the single slit, with their shanks upward, upon an inclined plane surface. This single slit, and the plane surface which it covers, are twisted at the end, in such a manner that a plane passing through the slit is nearly horizontal, and the surface which is in contact with the head of the button, is nearly vertical. Consequently, when the buttons reach the bottom, they lie in such a position that a plane passing through the eye of the lowermost button is horizontal or nearly so. The column of buttons is held up by a light spring, and this spring gate is opened by the button itself, because the so-called trough holding the column of buttons vibrates sidewise, and a thread which passes through the eye of the lowermost button prevents that button from vibrating with the contrivance, and the button is pulled out by the thread, and, in being pulled out, overcomes the resistance of the spring. The eye of the lowermost button in the column lies directly under the needle, so that the needle enters it while it is still in the column. The contrivance containing the column then vibrates sidewise, so as to get out of the way of the needle in a subsequent feeding operation. The spring in the Lancaster machine, which holds up the column of buttons, was a common device in screw blank and eyelet machinery, to hold up a column of blanks and permit them to be removed one by one.

In the Lancaster machine, there is a contrivance for feeding the fabric so as to space the stitches, and consequently to space the buttons, and the machine feeds by means of a single needle which reciprocates in a straight line, and, while it

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is inserted in the fabric, moves in the direction of the feed, carrying the fabric with it, the motion of the needle or feed being derived from revolving cams. The expert for the defendant says that he finds no substantial difference between the mechanism which feeds the fabric in the two machines.

As to the stitching mechanism of the Lancaster machine, the needle is on the upper side of the fabric, and descends through it. It is an ordinary crochet needle, provided with a cast off, both the needle and the cast off being like those described in the Morley patent, and the same which had been used for many years in sewing leather. The machine is also provided with a thread carrier beneath the fabric, like that used in machines for sewing leather. The eye of the button in the Lancaster machine makes a part of the stitch, and the stitch cannot be made unless a button is supplied at every alternate perforation of the needle. It is therefore necessary that the machine should have some contrivance for carrying some of the loops of the thread over the bodies of the buttons, so that the loop may be locked by the eye of the button. In making the stitch, the needle first passes down through the eye of the button, carrying its hook below the fabric. The thread carrier beneath the fabric then puts a loop of thread into the hook, and the hook rises, pulling a loop of thread through the fabric and through the eye of the button. The needle then descends again, sliding through such loop and piercing the fabric, and leaving the loop on top of the fabric. The thread carrier then again puts the thread into the hook of the needle, and the needle rises again, carrying another bight of the thread through the fabric and through the loop on top of the fabric, thus locking that loop. As the needle rises, a contrivance seizes both parts of the loop carried up through the second hole made by the needle, opens it wide, and passes it over the body of the button, and the part of the loop which is over the button is then pulled down through the fabric and consequently around the shank of the button, thus locking the stitch. A succession of these operations

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forms the stitch, and sews a row of buttons on the fabric, each alternate loop of the stitch being locked by the button itself. If the buttons were removed from the stitch, there would remain a succession of loops, and consequently no seam.

In the operation of the Lancaster machine, after the needle has passed through the eye of the button, the end of the so-called trough and the needle move together, while the needle is making its feeding motion. The so-called trough then stands still until the needle has ascended and pulled a loop of thread through the eye and has again pierced the fabric. When the needle has got into the fabric a second time the button is pulled out of the end of the trough by the retreat of the trough towards the rear of the machine, and is so pulled out because at that time the fabric is standing still and the button is held to it by the loop of thread which is passed through the eye of the button. After the button is thus pulled out of the end of the trough, the trough stands still for a while, while a loop is passed over the body of the button, as above described, and the trough then returns again, so as to hold the eye of a second button in the path of the descending needle, the button being thus released, not by the motion of the fabric, but by the motion of the trough which carries the column of buttons.

It satisfactorily appears, that the Morley machine was the first one which accomplished the result of automatically separating buttons which have a shank from a mass of the same, conveying them in order to a position where they can be selected by the machine, one after another, and, by sewing mechanism, coupled with suitable mechanism for feeding the fabric, be sewed thereto at prescribed suitable distances apart from each other. The machine performs automatically these three functions of selecting, sewing and spacing. The problem to be performed was to select from a mass of buttons, furnished with heads and with wire eyes projecting therefrom, single buttons, and to present them in succession

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to the needle of a sewing mechanism, so that the needle could pass through the eye and secure it to the fabric. Machinery existed before for selecting from a mass wood-screw blanks, horse nails, and pins, and delivering them to other machinery; but, in such constructions, the shank of the article being heavier than its head, the tendency was for the articles to arrange themselves in the way with the shanks downward, the heads being supported on the top surface of the way. With such buttons as are used in the two machines in controversy, as the heads are much heavier than the shanks and the eyes combined, the buttons will not naturally arrange themselves with their shanks downward. It is therefore necessary to have some means for turning each button into such a position that a plane passing through its eye shall be perpendicular to a plane passing through the long axis of the sewing needle, so as to insure the passage of the needle through the eye. No machine existing prior to Morley's is shown to have accomplished that operation.

The substance of the defence in the case is, that there are certain specific differences between the button-feeding mechanisms in the two machines, and also certain specific differences between their sewing mechanisms; and hence that there is no infringement. This was the view taken by the Circuit Court in its opinion. 23 Fed. Rep. 344.

Morley, having been the first person who succeeded in producing an automatic machine for sewing buttons of the kind in question upon fabrics, is entitled to a liberal construction of the claims of his patent. He was not a mere improver upon a prior machine which was capable of accomplishing the same general result; in which case, his claims would properly receive a narrower interpretation. This principle is well settled in the patent law, both in this country and in England. Where an invention is one of a primary character, and the mechanical functions performed by the machine are, as a whole, entirely new, all subsequent machines which employ substantially the same means to accom-

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plish the same result are infringements, although the subsequent machine may contain improvements in the separate mechanisms which go to make up the machine.

In *McCormick v. Talcott*, 20 How. 402, 405 [6 Am. & Eng. 410]; the inquiry was, whether McCormick was the first person who invented, in a reaping machine, the apparatus called a divider, performing the required functions, or whether he had merely improved an existing apparatus, by a combination of mechanical devices which performed the same functions in a better manner. This Court, speaking by Mr. Justice GRIER, said: "If he" (the patentee) "be the original inventor of the device or machine called the divider, he will have a right to treat as infringers all who make dividers operating on the same principle, and performing the same functions by analogous means or equivalent combinations, even though the infringing machine may be an improvement of the original, and patentable as such. But if the invention claimed be itself but an improvement on a known machine by a mere change of form or combination of parts, the patentee cannot treat another as an infringer who has improved the original machine by use of a different form or combination performing the same functions. The inventor of the first improvement cannot invoke the doctrine of equivalents to suppress all other improvements which are not mere colorable invasions of the first."

So, also, in *Chicago & N. W. R. Co. v. Sayles*, 97 U. S. 554 [12 Am. & Eng. 121]; this Court, speaking by Mr. Justice BRADLEY, said, in regard to brakes for eight-wheeled railroad cars: "Like almost all other inventions, that of double brakes came in, when, in the progress of mechanical improvement, it was needed; and being sought by many minds, it is not wonderful that it was developed in different and independent forms, all original, and yet all bearing a somewhat general resemblance to each other. In such cases, if one inventor precedes all the rest, and strikes out something which includes and underlies all that they produce, he acquires a

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monopoly, and subjects them to tribute. But if the advance toward the thing desired is gradual, and proceeds step by step, so that no one can claim the complete whole, then each is entitled only to the specific form of device which he produces, and every other inventor is entitled to his own specific form, so long as it differs from those of his competitors, and does not include theirs. These general principles are so obvious that they need no argument or illustration to support them."

The same view was directly applied in *Clough v. Barker*, 106 U. S. 166 [14 Am. & Eng. 211]; to the Clough patent for an improvement in gas burners. The 1st claim of that patent was for "the bat-wing burner, perforated at the base, in combination with the surrounding tube, substantially as described." The 2d claim read thus: "In combination with the bat-wing burner, perforated at the base, and surrounding tube, the tubular valve for regulating the supply of external gas to the burner, substantially as described." It appeared that in no prior structure had a valve arrangement been applied to regulate the flow of gas in such a combination as that covered by the 1st claim of the patent. It was, therefore, held that the patentee was entitled to the benefit of the doctrine of equivalents, as applied to the combination covered by the 2d claim. In the defendant's burner, the regulation was made by a tubular valve on the outside of the perforations, instead of on the inside, as in the patent, but performing its work by being screwed up or down, as in the patent. This Court said: "Although in the Clough structure the burner and surrounding tube revolve together in adjusting their position in reference to that of the tubular valve, so as to let in or turn off the supply of gas through the perforations, and although in the Clough structure the flame revolves by the revolution of the burner, and although in the defendant's burners the revolution of the surrounding tube regulated the supply of gas through such perforations, and neither the burner nor the flame revolved,

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the defendant's valve arrangement must be held to have been an equivalent for that of Clough to the full extent to which that of Clough goes, involving, perhaps, patentable improvements, but still tributary or subject to the patent of Clough. It is true that that patent describes the tubular valve as being inside of the burner-tube. But Clough was the first person who applied a valve regulation of any kind to the combination to which he applied it, and the first person who made such combination; and he is entitled, under decisions heretofore made by this Court, to hold as infringements all valve regulations, applied to such a combination, which perform the same office in substantially the same way as, and were known equivalents for, his form of valve regulation." See also *Duff v. Sterling Pump Co.* 107 U. S. 636 [14 Am. & Eng. 440].

The same doctrine was applied by this Court in *Consolidated Safety Valve Co. v. Crosby Steam Gauge and Valve Co.* 118 U. S. 157 [15 Am. & Eng. 460], to the Richardson patent, the claim of which was "A safety valve with the circular or annular flange or lip *cc*, constructed in the manner, or substantially in the manner, shown, so as to operate as and for the purpose herein described." It appeared that Richardson was the first person who made a safety valve which, while it automatically relieved the pressure of steam in the boiler, did not, in effecting that result, reduce the pressure to such an extent as to make the use of the relieving apparatus practically impossible, because of the expenditure of time and fuel necessary to bring up the steam again to the proper working standard; and that his valve was the first which had a strictured orifice leading from the huddling chamber to the open air, to retard the escape of the steam, and to enable the valve to open with increasing power against the action of the spring, and to close suddenly, with small loss of pressure in the boiler. It was held, that that claim covered a valve in which were combined an initial area, an additional area, a huddling chamber beneath the additional area, 129 U. S. 276-276.

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and a strictured orifice such as that above mentioned, the orifice being proportioned to the strength of the spring. It was also held, that under the claim of a second patent, namely: "The combination of the surface beyond the seat of the safety valve, with the means herein described for regulating or adjusting the area of the passage for the escape of steam, substantially as and for the purpose described," the patentee was entitled to cover the combination, with the surface of the huddling chamber and the strictured orifice, of a screw ring to be moved up or down to obstruct such orifice more or less in the manner described. It was further held, that both of the patents were infringed by a valve which produced the same effects in operation by the means described in Richardson's claims, although the valve proper was an annulus, and the extended surface was a disc inside of the annulus, the Richardson valve proper being a disc and the extended surface an annulus surrounding the disc; and although the valve proper of the defendant had two ground joints, and only the steam which passed through one of them passed through the stricture, while in the Richardson valve, all the steam which passed into the air passed through the stricture; and although in the defendant's valve the huddling chamber was at the center, instead of at the circumference, and was in the seat of the valve, under the head, instead of in the head, and the stricture was at the circumference of the seat of the valve, instead of being at the circumference of the head. These conclusions were based on the fact, stated in the opinion of the Court, that no prior structure was known or recognized as producing any such result as that produced by Richardson's apparatus; that the prior structures never effected the kind of result attained by the apparatus, because they lacked the thing which gave success; and that, taught by Richardson, and by the use of his apparatus, it was not difficult for skilled mechanics to take the prior structures and so arrange and use them as to produce more or less of the beneficial results first made known by him.

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The doctrine thus applicable to a machine patent is of a kindred character with that applied, in this country and in England, to a patent for a process.

In *Tilghman v. Proctor*, 102 U. S. 707 [13 Am. & Eng. 29], the claim of Tilghman's patent was for "the manufacturing of fat acids and glycerine from fatty bodies by the action of water at a high temperature and pressure." In the opinion of this Court, delivered by Mr. Justice BRADLEY, the claim was sustained as a claim for a process, irrespective of the particular mode or form of apparatus for carrying it into effect, inasmuch as the patent described a practical and useful mode of carrying it into effect. It was said in the opinion, p. 721: "Had the process been known and used before, and not been Tilghman's invention, he could not then have claimed anything more than the particular apparatus described in his patent; but being the inventor of the process, as we are satisfied was the fact, he was entitled to claim it in the manner he did." It was also held, that in such a case, a person who subsequently discovers a new mode of carrying out the patented process is not entitled to use the process without the consent of the patentee.

Reference was made in the opinion in that case to the decision in *Neilson v. Harford*, 1 Web. Pat. Cas. 295 [3 Am. & Eng. 190], which related to Neilson's patent for the process of applying a blast of heated air to anthracite coal in a smelting furnace, by forcing such blast through a vessel situated between the blowing apparatus and the furnace, and heated to a red heat, the form of the heated vessel being stated by the patent to be immaterial. On this question this Court said: "That a hot blast is better than a cold blast for smelting iron in a furnace, was the principle or scientific fact discovered by Neilson; and yet, being nothing but a principle, he could not have a patent for that. But having invented and practically exemplified a process for utilizing this principle, namely: that of heating the blast in a receptacle between the blowing apparatus and the furnace, he was en-

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titled to a patent for that process, although he did not distinctly point out all the forms of apparatus by which the process might be applied, having, nevertheless, pointed out a particular apparatus for that purpose, and having thus shown that the process could be practically and usefully applied. Another person might invent a better apparatus for applying this process than that pointed out by Neilson, and might obtain a patent for such improved apparatus; but he could not use the process without a license from Neilson. His improved apparatus would, in this respect, stand in a relation to the process analogous to that which an improvement on a patented machine bears to the machine itself."

In regard to the case of *Neilson v. Harford*, this Court, speaking by Chief Justice TANEY, in *O'Reilly v. Morse*, 15 How. 62 [5 Am. & Eng. 483], said, in reference to the opinion of the Court of Exchequer in that case, delivered by Baron PARKE: "We see nothing in this opinion differing in any degree from the familiar principles of law applicable to patent cases. Neilson claimed no particular mode of constructing the receptacle, or of heating it. He pointed out the manner in which it might be done; but admitted that it might also be done in a variety of ways and at a higher or lower temperature, and that all of them would produce the effect in a greater or less degree, provided the air was heated by passing through a heated receptacle. And hence it seems that the Court at first doubted whether it was a patent for anything more than the discovery that hot air would promote the ignition of fuel better than cold. And if this had been the construction, the Court, it appears, would have held his patent to be void, because the discovery of a principle in natural philosophy or physical science is not patentable. But after much consideration, it was finally decided that this principle must be regarded as well known, and that the plaintiff had invented a mechanical mode of applying it to furnaces; and that his invention consisted in interposing a heated receptacle between the blower and the furnace, and

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by this means heating the air after it left the blower, and before it was thrown into the fire. Whoever, therefore, used this method of throwing hot air into the furnace, used the process he had invented, and thereby infringed his patent; although the form of the receptacle or the mechanical arrangements for heating it, might be different from those described by the patentee. For, whatever form was adopted for the receptacle, or whatever mechanical arrangements were made for heating it, the effect would be produced in a greater or less degree, if the heated receptacle was placed between the blower and the furnace, and the current of air passed through it. Undoubtedly the principle that hot air will promote the ignition of fuel better than cold, was embodied in this machine. But the patent was not supported because this principle was embodied in it. He would have been equally entitled to a patent if he had invented an improvement in the mechanical arrangements of the blowing apparatus or in the furnace, while a cold current of air was still used. But his patent was supported because he had invented a mechanical apparatus by which a current of hot air, instead of cold, could be thrown in. And this new method was protected by his patent. The interposition of a heated receptacle, in any form, was the novelty he intended."

This Court also said, in *Tilghman v. Proctor*, p. 728: "If the mode of applying the process is not obvious, then a description of a particular mode by which it may be applied is sufficient. There is, then, a description of the process, and of one practical mode in which it may be applied. Perhaps the process is susceptible of being applied in many modes and by the use of many forms of apparatus. The inventor is not bound to describe them all, in order to secure to himself the exclusive right to the process, if he is really its inventor or discoverer. But he must describe some particular mode, or some apparatus, by which the process can be applied with at least some beneficial result, in order to

129, U. S. 279-280.

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show that it is capable of being exhibited and performed in actual experience."

The English doctrine is to the same effect. In the case of *Curtis v. Platt*, before Vice-Chancellor Wood, in 1863, reported in a note to *Adie v. Clark*, L. R. 3 Ch. Div. 134, the Vice-Chancellor said, p. 136, in regard to a patent for an improvement in spinning mules: "When the thing is wholly novel, and one which has never been achieved before, the machine itself which is invented necessarily contains a great amount of novelty in all its parts; and one looks very narrowly and very jealously upon any other machines for effecting the same object to see whether or not they are merely colorable contrivances for evading that which has been before done. When the object itself is one which is not new, but the means only are new, one is not inclined to say that a person who invents a particular means of doing something that has been known to all the world long before, has a right to extend very largely the interpretation of those means which he has adopted for carrying it into effect." In the same case, on appeal before the Lord Chancellor (Lord WESTBURY), p. 138, the views of Vice-Chancellor Wood were concurred in.

In *Badische Anilin und Soda Fabrik v. Levinstein*, L. R. 24 Ch. Div. 156, 171, in regard to a patent for improvements in the production of coloring matters for dyeing and printing, Mr. Justice PEARSON said: "Where a patent is taken out for a process for arriving at a known result (I mean, a result known before the patent is taken out for the process *simpliciter*), any other person may take out a patent for another process, or may use another process without taking out a patent, without any infringement of the process first taken out. But when a patent is taken out for a new result not known before, and there is one process described in the patent which is effectual for the purpose of arriving at that new result at the time when the patent is taken out, the patentee is entitled to protection against all other processes

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for the same result; and no person can, without infringing upon his patent, adopt simply a different process for arriving at the same result." As authority for this view, he cites the cases of *Jupe v. Pratt*, 1 Web. Pat. Cas. 146 [2 Am. & Eng. 464], *Househill Coal & Iron Co. v. Neilson*, *Id.* 865; and *Curtis v. Platt*, *ubi supra*; and *Goodeve*, Pat. Cas. 102. He decided in favor of the plaintiff.

On appeal to the Court of Appeals, L. R. 29 Ch. Div. 366, the decree was reversed, Lords Justices BOWEN and FRY being in favor of a reversal, and Lord Justice BAGGALLAY against it. On further appeal to the House of Lords, L. R. 12 App. Cas. 710, the decision of the Court of Appeal was reversed, and the decision of Mr. Justice PEARSON was restored, Lord HALSBURY (Lord CHANCELLOR), Lord HERSCHELL, and Lord MACNAGHTEN sitting in the case and concurring. In the judgment given by Lord HERSCHELL it is stated that all the Judges of all the Courts were agreed on the question of infringement.

A recent and instructive case is that of *Proctor v. Bennis*, L. R. 36 Ch. Div. 740, in regard to a patent for self-acting mechanism for supplying fuel at intervals to, and distributing it over the surface of, a fire. The Court of first instance held the patent to be valid and to have been infringed. In the Court of Appeal, Lords Justices COTTON, BOWEN, and FRY unanimously affirmed the decision, and held that a patent for a combination of known mechanical contrivances, producing a new result, was infringed by a machine producing the same result by a combination of mechanical equivalents of such contrivances, with some alterations and omissions, which did not prevent the new machine from being one which took the substance and essence of the patented invention; but that, where the result was old, and the novelty consisted only of improvements in a known machine for producing a known result, the patentee must be tied down strictly to the mode which he had described of effecting the improvements.

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Lord Justice COTTON, after referring to the case of *Curtis v. Platt*, L. R. 3 Ch. Div. 135, *note*, said (p. 757): "Where there is no novelty in the result, and where the machine is not a new one, but the claim is only for improvements in a known machine for producing a known result, the patentee must be tied down strictly to the invention which he claims, and the mode which he points out of effecting the improvement. But here the throwing coal on to the furnace by the intermittent radial action of a flap or door was new. Nothing of the kind had been done before. It is true, there had previously been imperfect machines for feeding furnaces automatically; but that had not, previously to this machine, been done by any intermittent radial action of a flap or door, as is done by the plaintiff. In my opinion, therefore, the opinions expressed by the Judges with reference to mere improvements in an old machine for an old purpose cannot apply to a case like this, where there was not only novelty in the machine, but novelty in the result to be produced by that machine."

Lord Justice BOWEN said (p. 764): "Now, I think it goes to the root of this case to remember that this is, as was described by one of the counsel, really a pioneer invention; and it is by the light of that, as it seems to me, that we ought to consider the question whether there have been variations, or omissions, and additions, which prevent the machine which is complained of from being an infringement of the plaintiff's. With regard to the variations, I take precisely the same view that the Lord Justice COTTON has taken; and I will not travel over the ground again. With regard to the additions and omissions, it is obvious that additions may be an improvement, and that omissions may be an improvement; but the mere fact that there is an addition, or the mere fact that there is an omission, does not enable you to take the substance of the plaintiff's patent. The question is not whether the addition is material, or whether the omission is material, but whether what has been taken is the

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substance and essence of the invention. That seems to me to be the true test, as propounded by the House of Lords in *Clark v. Adie*, L. R. 2 App. Cas. 315, 320."

Lord Justice FRY said (p. 766): "The pith and substance of the plaintiff's invention is, in my judgment, putting coals upon a fire by an intermittent radial action, an invention which, it may be remarked, reproduces with great exactitude the action of the human arm in placing coals upon a fire." Also (p. 768): "In the present case, we have these broad features of likeness, that in both machines the motion is a radial motion, in both machines it is an intermittent motion, in both machines it is of course produced by means of a radius, in both machines that radius is moving in one direction by tappets, and the same radius, is moved in the opposite direction by a spring. All those broad features of the machine are in common; but there is this difference, that in the plaintiff's machine a shaft is impelled by the tappets and by the spring; whereas, in the defendant's machine the radius itself is impelled by the tappets and the spring. It follows that the radius in the plaintiff's is attached to the shaft, whereas the radius in the defendant's work on a pin. That is the broad distinction between them. The result, however, appears to me to be substantially the same; by substituting the pin for the shaft as the center on which the radius acts, and by impelling the radius itself instead of impelling the shaft fixed to the radius, you have produced in substance precisely the same radial action by the same means. You drive your radius in one direction by tappets, and you drive it in the other direction by a spring, and you produce the same result, namely: the feeding of coal by a radial motion made intermittent in one direction by the operation of the tappets, and in the other direction by the spring. I think, therefore, that we have a new combination for a new object, and that the gist of that combination has been taken by the defendant, and that, consequently, there is an infringement."

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Applying these views to the case in hand, Morley having been the first inventor of an automatic button-sewing machine, by uniting in one organization mechanism for feeding buttons from a mass, and delivering them one by one to sewing mechanism and to the fabric to which they are to be secured, and sewing mechanism for passing a thread through the eye of the button, and securing it to the fabric, and feeding mechanism for moving the fabric the required distances to space the buttons, another machine is an infringement, in which such three sets of mechanism are combined, provided each mechanism, individually considered, is a proper equivalent for the corresponding mechanism in the Morley patent; and it makes no difference that in the infringing machine, the button-feeding mechanism is more simple, and the sewing mechanism and the mechanism for feeding the fabric are different in mechanical construction, so long as they perform each the same function as the corresponding mechanism in the Morley machine, in substantially the same way, and are combined to produce the same result.

The view taken on the part of the defendant, in regard to the question of infringement, is that, inasmuch as the Lancaster machine uses different devices in its mechanisms which correspond to those referred to in the 1st, 2d, 8th, and 13th claims of the patent, those claims are to be limited to the special devices described in the patent, which make up such combinations, although both machines contain the same main group of instrumentalities which, when combined, make up the machine.

But, in a pioneer patent, such as that of Morley, with the four claims in question, such as they are, the special devices set forth by Morley are not necessary constituents of the claims. The main operative features of both machines are the same. In each there is a receptacle for shank buttons in a mass; in each the mass of buttons passes in order, into a conveyer-way; and in each the buttons conveyed to the sewing mechanism are presented successively with their shanks

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in a horizontal position, so as to allow of the passage of the needle through the eye. In the Morley machine, the buttons are carried along the raceway with their shanks downward, and are turned over by proper devices, so that the needle can enter the eye. In the Lancaster machine, the buttons travel along the raceway with their shanks upward, and the twisted shape of the raceway causes the buttons to be presented properly in succession to the needle. The only difference is, that in the Morley machine there is an active operating device for turning the buttons, in the shape of a button wheel which receives them, and shuts off the column, and takes one at a time out of the raceway; while in the Lancaster machine there is a passive device for accomplishing the same result of turning the buttons, and there is no button wheel, but there is a spring gate at the end of the raceway, which shuts off the column and, with the addition of other devices, allows one button at a time to be withdrawn from the raceway. But in the Morley patent a modification is described, whereby the button wheel is dispensed with, and a spring gate, as in the Lancaster machine, is employed, and an active device is used to open the spring gate and discharge the button, while in the Lancaster machine an active instrumentality is used to effect the same result, in combination with the sidewise movement of the raceway and in connection with the fact that the needle enters the eye of the button and passes a thread through it.

As to the mechanism for feeding the fabric, it is substantially the same in the two machines, for in each the needle operates to feed the fabric, while inserted in it, and it makes no difference that in the Morley machine the two needles swing like an inverted pendulum, while in the Lancaster machine the single needle swings in a straight line.

The principal difference relied on by the defendant is in regard to the sewing or stitching mechanism, based upon the difference in the kind of stitch used in the two machines for fastening the button to the fabric. The two stitches are, in-

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deed, different, specifically considered. Morley uses the chain-stitch. In the Lancaster machine, the stitch is made by looping the thread upon itself, and putting the bight of the loop around the shank of the button, so as to prevent the loop from pulling out, as it would otherwise do. The Morley patent, however, is not for any particular kind of stitch, or for any particular kind of mechanism for making such stitch. When the form of the stitch is changed, the instrumentalities for making it must change. Morley says, in his specification, that different means for making a stitch may be employed, as well as other feed mechanisms.

The contention of the defendant, in regard to the sewing mechanism, rests upon the proposition, that the convolution or concatenation of thread which makes up the stitch in the Lancaster machine is different from that which is found in the Morley machine. In each machine, however, the buttons are spaced at the proper distances apart by the feeding mechanism which moves the fabric along, and the feeding device is moved alternately different distances, to alternate short stitches with long stitches between the buttons. In each machine, the button is taken possession of by the sewing mechanism, and the needle in each enters the eye of the button. In the Lancaster machine, however, the thread is so looped as to embrace also the shank of the button; and thus, if the button were not present in the Lancaster machine, the lock-stitch would not be formed, but merely a succession of loops, which could be pulled out of the fabric. But this convolution or concatenation of the thread to form the fastening of the stitch, and the particular device which forms such convolution or concatenation, are not made, by the Morley patent, elements which enter into the claims in question.

Those claims are not for a result or effect, irrespective of the means by which the effect is accomplished. It is open to a subsequent inventor to accomplish the same result, if he can, by substantially different means. The effect of the rule before laid down is merely to require that, in determining

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whether the means employed in the Lancaster machine are substantially the same means as those employed in the Morley machine, the Morley patent is to receive a liberal construction, in view of the fact that he was a pioneer in the construction of an automatic button sewing-machine, and that his patent, especially in view of the character and terms of the four claims in question, is not to be limited to the particular devices or instrumentalities described by him, used in the three main elements of his machine, which, combined together, make it up. This is the principle applied by this Court in *Consolidated Valve Co. v. Crosby Valve Co.*, 113 U. S. 157 [15 Am. & Eng. 460].

In all three of the main mechanisms used in the Lancaster machine, the means employed in it are substantially equivalents of those employed in the Morley machine. There is in each a hopper containing the mass of buttons, and an inclined conveyer-way leading from the hopper to the sewing mechanism. The only question in regard to the button-feeding mechanism is whether the means employed in the Lancaster machine for turning the button so that the eyes will come into the path of the needle, are within the means employed for the same purpose in the Morley machine. In the Morley machine there is a flexible, corrugated strip of metal, which is oscillated to and fro, and operates to roll the buttons over so that their shanks will occupy a groove at the bottom of the trough. In the Lancaster machine, the reciprocating brush which sweeps over the bottom of the hopper in which the buttons lie in a mass, operates in an equivalent way with the corrugated strip of the Morley machine, and causes the shanks, which stand upward, of the buttons which have been rolled over by its action to enter slits in a metal plate, which converge in the single conveyer-way. The only difference is that, in the Morley machine, the shanks are caused to lie in one direction at one time in their path, and in the Lancaster machine the same result is accomplished by equivalent devices at another time.

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As to the instrumentalities employed in the two machines for bringing the buttons one by one so that their eyes will stand in a horizontal position, ready to receive the needle, the buttons in the Morley machine pass down the conveyer-way with their eyes pointing downward, and occupying the groove, and from the conveyer-way they enter one by one into a button wheel which, by revolving, turns them 180° , and they are then received into a carrier which further turns them 90° , so as to get the eye into a horizontal plane. In the Lancaster machine it is not necessary to turn the buttons more than 90° , because they have been so rolled over by the brush in the hopper that their eyes point upward and enter the slits, and the conveyer-way is twisted and so turns the button that its eye will occupy a horizontal plane, ready to receive the needle. Then the needle, entering the eye of the button, pulls the button out of the conveyer and the latter moves out of the way, leaving the button in the possession of the sewing mechanism.

These instrumentalities are the equivalents of each other, the differences being merely formal, active instrumentalities being employed in one case to turn the buttons, and in the other that end being accomplished by the twisting of the conveyer-way. To employ a curved path to change the plane occupied by a body passing along that path was well known in mechanics, and is a device shown in the Morley patent for turning the buttons from a nearly vertical position to a horizontal position, by a corresponding variation in the inclination of the conveyer-way. The only difference in the particular devices in the two machines in this respect results from the fact that in the Morley machine the buttons pass from the hopper with their shanks downward, while in the Lancaster machine they pass with their shanks upward. From this it results that, while the means employed in the two machines are substantially the same to effect the same result, active agents can be used in the one case, while passive agents are used in the other, to effect the same turning of the

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button. Indeed, in the modified form of construction suggested in the Morley specification, there is a spring gate for holding the buttons up, while in the Lancaster machine there is a similar spring, the only difference being that in the Morley machine the spring-gate is opened by a special device, while in the Lancaster machine the button itself opens the spring when the button-holding contrivance moves out of the way. In that modification of the Morley arrangement, as the specification states, the button wheel and the plunger are dispensed with, and it is not necessary to turn the button 180° on a vertical axis. So in this respect the only difference between the two machines is that in the Morley machine the spring gate is opened by an active device, while in the Lancaster machine the conveyer-way is moved sidewise by an active device, leaving the button behind, which opens the spring gate because the needle has entered the eye of the button.

In regard to the sewing mechanism in the two machines, a sewing needle with thread is employed in each to fasten the buttons to the fabric. In each the thread is continuous and follows the fabric as that is moved along by the mechanism which feeds it. The Morley machine employs the common stitch. In the Lancaster machine there is a peculiar stitch, in which a loop is drawn around the shank of the button and thus the stitch is locked against being drawn out; but, notwithstanding the new convolution or concatenation of thread used in the Lancaster machine to secure the shank of the button to the fabric, the sewing mechanism of that machine is a substantial equivalent for the corresponding mechanism of the Morley patent. The invention of Morley in that respect did not consist in the peculiarity of the stitch, but in the combination of the needle and the mechanism for operating it with a button having a shank and an eye, the eye being held in a horizontal plane in the path of the needle, so that the thread carried by the needle could secure the button to the fabric. It is immaterial, in so securing the

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button, whether or not a loop is passed over the head of the button. The defendant's device and arrangement may be an improvement and the subject of a patent; but nevertheless the use of it involves the plaintiff's invention.

It may be true that the defendant's peculiar form of stitch was unknown before; and it may also be true that his arrangement for carrying the buttons with their eyes upward and turning the eyes into a horizontal plane by the twisting of the conveyer-way was not known before. Of course they were not before known in a machine for automatically sewing buttons to a fabric, because Morley's machine was the first to do that. But still, the defendant employs for the above purposes known devices, which in mechanics were recognized as proper substitutes for the devices used by Morley to effect the same results. Thus, in the Lancaster Machine, the brush for rolling over the buttons is the obvious equivalent of the corrugated plate in the Morley machine. The mode of operation used in the Lancaster machine for rolling over the buttons so that their shanks shall point in a particular direction before entering the main conveyer-way is the same mode of operation found in the Morley machine, where the corrugated plate rolls the buttons over during their passage to the grooved conveyer-way, so that their shanks shall all point in the same direction. In the Lancaster machine, the action resulting from the twisted way is a mechanical equivalent for the button wheel, the punch and the carrier used in the Morley machine to turn the eye into the proper plane for the needle to enter it; and the specific difference in the devices in this respect becomes less when the modification described in the Morley patent is used, so that in each of the two machines the button is turned only 90° on a horizontal axis, and in each of them a spring gate is employed, opened in the one case by an active device, while in the other case an active device moves the conveyer away from the particular button which is being held by the needle.

In this sense the mechanical devices used by the defendant

Opinion of the Court.

are known substitutes or equivalents for those employed in the Morley machine to effect the same result; and this is the proper meaning of the term "known equivalent," in reference to a pioneer machine such as that of Morley. Otherwise, a difference in the particular devices used to accomplish a particular result in such a machine would always enable a defendant to escape the charge of infringement, provided such devices were new with the defendant in such a machine, because, as no machine for accomplishing the result existed before that of the plaintiff, the particular device alleged to avoid infringement, could not have existed or been known in such a machine prior to the plaintiff's invention.

It results from these views that the decree of the Circuit Court must be reversed, and the case be remanded to that Court with a direction to enter a decree in favor of the plaintiffs, sustaining the validity of claims 1, 2, 8 and 13 of the plaintiff's patent, and adjudging that those claims have been infringed by the defendant, and ordering a reference to a master to take an account of profits and damages in respect to such infringement, and awarding to the plaintiffs a perpetual injunction in respect to the four claims above mentioned; and to take such further proceedings as shall be according to law and not inconsistent with this opinion.

129 U. S. 290.

Notes:**3. Construction of a patent where inventor is first in the art.**

In addition to authorities cited see:

Béné v. Jeantet, 129 U. S. 683.

Patent in suit:

No. 236,350. J. H. Morley. January 4, 1881. Machine for sewing buttons on fabrics.

Notes and citations.

OTHER SUITS ON SAME PATENT :

Morley Sewing Machine Co. v. Lancaster, 1885. 28 Fed. Rep. 348.

Morley Sewing Machine Co. v. Shute, 1889. 41 Fed. Rep. 344.

Cited :

IN SUPREME COURT IN :

Royer v. Schultz Belting Co., 1890. 135 U. S. 319.

IN CIRCUIT COURTS IN :

Morley Sewing Machine Co. v. Shute. December, 1889. 41 Fed. Rep. 52.

IN TEXT BOOKS :

Walker on Patents, 2d ed., 1889. p. 281.

Oct., 1888.] PATTEE PLOW Co. v. KINGMAN & Co. 355.

Syllabus.

THE PATTEE PLOW COMPANY, APPELLANTS, v.
KINGMAN & COMPANY, ET. AL.*

129 U. S. 294-305. October Term, 1888.

[Bk. 32, L. ed. 700; 46 O. G. 1107.]

Argued November 16, 19, 1888. Decided February 4, 1889.

Particular patents construed. Reissue of a combination for a less number of elements. Enlarged reissue.

1. Reissued letters patent, No. 6080, J. H. Pattee, October 6, 1874, Cultivator, construed in view of original, No. 124,218, March 5, 1872, to be for the omission of an element in the original combination of five parts, by treating two elements of the original as a single element in the reissue, and *held*, by thus reducing the number of elements, to render its scope less narrow than that of the original; and *held*, also, that the omission of an element in the second claim was an illegal enlargement of the claim. *Held*, further, that if valid, when limited to what alone could be claimed as new, in view of the state of the art, the reissue is not infringed. (p. 374.)
2. It is well settled that a reissue can only be granted for the same invention intended to be embraced by the original patent, and the specification cannot be substantially changed, either by the addition of new matter or the omission of important particulars, so as to enlarge the invention as intended to be originally claimed. (p. 380.)
3. Letters patent, No. 174,684, T. W. Kendall, March 14, 1876, cultivator, construed to have as its essential characteristics the rigidity of the runners and the resulting automatic action, and *held*, not infringed by a machine in which the runners were not constructed in the rigid form and the action was not automatic, but required manipulation every time the use was changed. (p. 383.)
4. Letters patent, No. 187,899, H. H. Pattee, February 27, 1877, cultivator, for constructing the arch of the beam

* See Explanation of Notes, page III.

Statement of the case.

yokes or axles of curved adjacent bars of iron or steel and attaching to their ends by riveting the cast-iron parts for securing thereto the plows and wheels, *held*, in view of the state of the art, wanting in novelty, and also in invention. (p. 386.)

[Cited in the opinion of the court:]

Pattee v. Moline Plow Co., 10 Biss. 377; 9 Fed. Rep. 821. (p. 381.)

Appeal from a decree of the Circuit Court of the United States for the Eastern District of Missouri, dismissing a suit for the infringement of letters patent.

The facts are stated in the opinion, and the following are the specifications and drawings of the patents referred to therein:

JAMES H. PATTEE, OF MONMOUTH, ILLINOIS, ASSIGNOR TO HIMSELF, HENRY H. PATTEE, AND ITHAMER P. PILLSBURY, OF SAME PLACE.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **124,218**, dated March 5, 1872.

SPECIFICATION.

I, JAMES H. PATTEE, of Monmouth, county of Warren and State of Illinois, have invented certain Improvements in Cultivators, of which the following is a specification:

NATURE AND OBJECTS OF THE INVENTION.

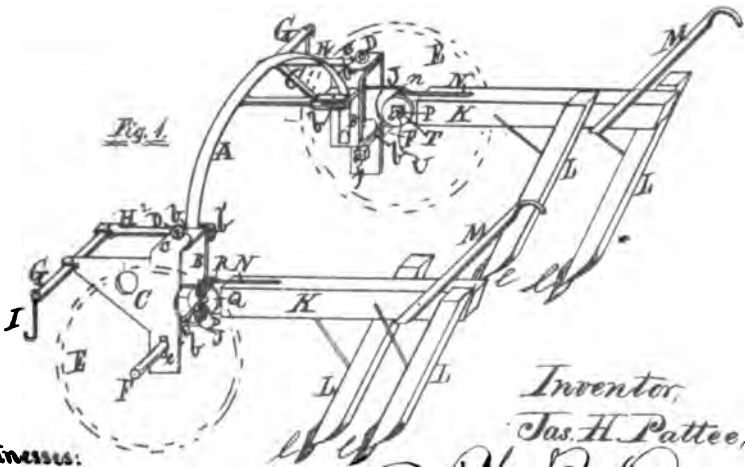
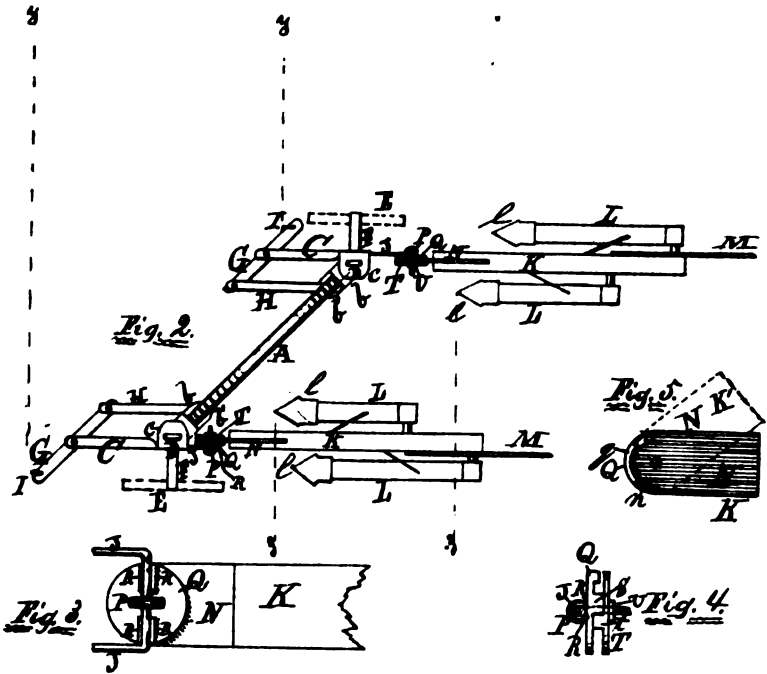
The nature of my invention relates to improvements in straddle-row cultivators, or implements for cultivating both sides of a row of plants simultaneously; and the invention.

J. H. PATTEE.

Improvement in Cultivators.

No. 124,218.

Patented March 5, 1872



Witnesses:
Matt R. Richards,
J. J. Tunncliffe,

Inventor,
Jas H. Pattee,
W. S. Richards,
his atty.

Statement of the case.

consists, first, in the combination of an elevated axle, supported on wheels, with two plow-beams, carrying plows and handles, and independently hinged to the axle or a frame in connection therewith, so as to permit of their being oscillated laterally or vertically independent of each other, all as hereinafter described; second, it consists in pivoting the wheels to the axle in such manner that the wheels may either one be advanced forward of the other, throwing the axle diagonal with the line of progression, while the wheels preserve the same relative position to the said line of progression; third, it consists in the peculiar construction of the joint by which the beams are hinged to the axle, allowing a free vertical and lateral movement of the beams, while it at the same time holds the axle in an elevated position, and the beams steady against a wobbling motion, all as hereinafter fully described; fourth, it consists in the peculiar construction of the hitching device, allowing the draft animals to advance or recede, the one ahead or in rear of the other, without influencing the plow-beams to the extent of the variation made by the said animals, all as hereinafter fully described.

DESCRIPTION OF THE ACCOMPANYING DRAWINGS.

Fig. 1 is a perspective view of my invention. Fig. 2 is a top plan or view. Fig. 3 is a side elevation of the joint by which the beams are hinged to the axle. Fig. 4 is a top view of same joint with the beam-plate removed. Fig. 5 is a side view of the beam-plate and the plate it rests against.

GENERAL DESCRIPTION.

A, is the axle, bowed or elevated at its central part. B B are plates secured to the ends of the axle A. The ends of the plates B B are turned outward, forming snugs *b b b b*. *b' b'* are snugs projecting inward from the plates B B. C C are triangular-shaped draft-plates, from which project snugs *c c c c*, corresponding with the snugs *b b b b*. D D are pins or bolts, passing through holes in the snugs *c c* and *b b*, and thereby pivoting the plates C C to the axle A. E E are the

Statement of the case.

wheels. F F are the wheel-spindles, their inner ends shouldered, threaded, and secured in slots *e e* in the lower ends of the plates C C by nuts *ff*. G G are eveners, pivoted near their centers in the forward ends of the plates C C. H H are bars, their forward ends pivoted to the inner ends of the eveners G G, and their rearward ends pivoted to the snugs *b' b'*. I I are hooks on the outer ends of the eveners G G, to which the draft animals are attached. J J are bars, round in their cross-section, their central portions vertical, and their ends bent forward at right angles thereto, and attached to the rear side of the plates C C. K K are the plow-beams; L L L L are the shanks, and *llll* the shovels. M M are the handles, same as in ordinary cultivators. N N are the beam-plates, one to each beam, their rear ends attached to the beams K K, their forward ends projecting therefrom and formed as hereafter described. P P are hook-bolts, their hooked ends encircling the vertical parts of the bars J J. Q Q are circular plates pierced with holes through which the shanks of the hook-bolts P P pass. R R R R are lugs on the plates Q, with semi-circular grooves on their faces next the bars J J, resting against said bars, and holding the plates Q Q in a vertical position when pressed thereto. *q q* are segmental annular flanges on the outer edge of plates Q Q, which work in segmental annular recesses *n n* on the outer ends of the beam-plates N N. S S are segmental annular flanges projecting from the face of the plates Q Q, around the central holes through the same, forming fulcrums on which the beam-plates N N operate, to allow the beams K K free vertical movement, without resting directly on the shanks of the bolts P P. T T are washers, pierced with holes through which the bolts P P pass, and having segmental annular flanges *t t* on their faces next the beam-plates N N, which flanges fit into the recesses in the flanges S S, and prevent the washers being turned by the frequent vertical movement of the plow-beams. U U are nuts on the outer ends of the bolts P P.

The operation is as follows: The axle is raised and low-

Statement of the case.

ered relatively to the wheels E E by adjusting the spindles F F in the slots *e e*. The axle A is held in a nearly-vertical position by the segmental flanges *q q* on the plates Q Q, engaging with the ends of the recesses *n n* in the beam-plates N N, while at the same time the recesses *n n* are a sufficient amount longer than the flanges *q q* to allow the beams the necessary amount of vertical movement for practical purposes.

At Fig. 2 it is plainly shown that either plow may be advanced forward of the other, and at the same time the beams be kept parallel, and the wheels E E neither inclined to the right or left, the wheel-spindles F F retaining their positions at right angles to the wheel-faces, to the line of progression, and to the plow-beams, each horse drawing his own plow in a great degree independent of the other, either end of the axle A advancing or falling back, turning on the pivotal bolts D D.

The dotted lines Y Y and Z Z at Fig. 2 show plainly by their relative distances apart that the beams K K are not advanced, the one ahead of the other, as much as the draft animals advance, the one ahead of its fellow, the distance of the lines Y Y apart showing the variation of the draft animals, and the distance of the lines Z Z apart showing the variation of the beams.

CLAIMS.

1st. The axle A, having plates B, hinged to the wheel spindle-plates C, so that the wheels are retained in the line of progression when one is in advance of the other, as set forth.

2d. The plates Q and N, washer T, bolt P, and bar J, operating in combination, for the purpose of hinging the beams to the axle, substantially as set forth.

3d. The evener bars G G and bars H H, when combined and arranged to operate with the hinged axle A, plates C, and wheels E E, substantially as and for the purpose specified.

Witnesses:

JAMES H. PATTEE.

PLATT R. RICHARDS,

THOS. S. BASSETT.

Statement of the case.

JAMES H. PATTEE, OF MONMOUTH, ILLINOIS,
ASSIGNOR TO HIMSELF, HENRY H. PATTEE,
AND ITHAMER P. PILLSBURY.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent, No. 124,218, dated
March 5, 1872; reissue No. 6080, dated October 6, 1874;
application filed July 22, 1874.

To all whom it may concern :

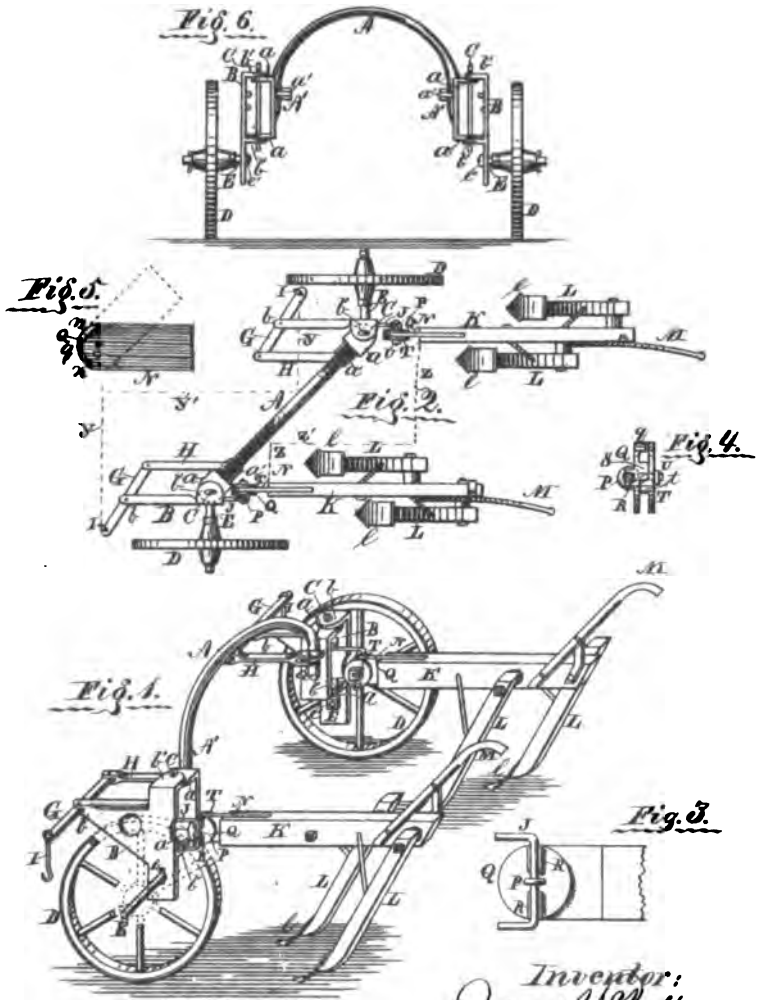
Be it known that I, JAMES H. PATTEE, of Monmouth, county of Warren and State of Illinois, have invented certain Improvements in Cultivators, of which the following is a specification :

This invention relates to improvements in straddle-row cultivators or implements for cultivating both sides of a row of growing plants simultaneously; and the invention consists, first, in the combination of an elevated axle supported on wheels with two plow-beams carrying plows and handles and independently hinged or pivoted to the axle, so as to be retained in working position without rear connection or support and move freely in a lateral, vertical, and longitudinal direction; second, it consists in hinging the ends of the axle to plates, to which the draft-animals are attached, and which are supported on wheels in such manner that the wheels are retained in the line of progression of the machine by the draft of the animals, and may either one be advanced forward of the other, throwing the axle diagonal with the line of progression, while the wheels preserve the same relative position to the said line of progression; third, it consists in the combination of draft-plates with the wheels, constructed and arranged to support said wheels; fourth, it consists in the combination of plow-beams, carrying plows and handles, with an axle, to which the supporting-wheels are pivoted; fifth, it consists in a new combination of devices whereby the axle is retained in an elevated or upright

J. H. PATTEE.
Cultivators.

No. 6,080.

Reissued Oct. 6, 1874.



Witnesses:
 M. H. Bassinger
 J. J. Tunnicliffe

Inventor:
 James H. Pattee, by
 A. M. Callum & W. B. Richards
 attys.

Statement of the case.

position and the beams steady in working position; sixth, it consists in the arrangement of a hitching device with the draft-plates, which allow the draft-animals to advance or recede, the one ahead or in rear of the other, without influencing the plow-beams to the extent of the variation made by the said animals, all as hereinafter fully described.

To enable others skilled in the art to make and use my invention, I will now proceed to describe the same with reference to the accompanying drawing, in which—

Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a top plan or view of Fig. 1. Fig. 3 is a side elevation of the joint by which the beams are hinged to the axle. Fig. 4 is a top view of the same joint with the beam-plate removed. Fig. 5 is a side view of the beam-plate and the plate it rests against. Fig. 6 is a rear side elevation of the axle and the draft-plate.

Referring to the parts by letters, letter A represents the axle, formed as shown in the drawings, of an elevated central part, A, vertical side portions A' A', and horizontal projections a a, from each of the vertical side portions A'. B B are draft-plates, with projecting forward ends b, to which the draft-animals may be attached direct or by any suitable device, and with an enlarged rear end, from which project lugs b' b', corresponding with the projections a a of the axle A, to which they are hinged by vertical bolts C, as plainly shown in the drawings. D D are the supporting-wheels. E E are the wheel-spindles, their inner ends shouldered, threaded, and secured in slots e in the lower ends of the plates B by nuts e'. G G are eveners, pivoted near their centers in the forward ends of the plates B. H H are bars, their forward ends pivoted to the inner ends of the eveners G G, and their rearward ends pivoted to lugs a' a', which project inwardly from the vertical parts A' of the axle. I I are hooks on the outer ends of the eveners G G, to which the draft-animals are attached. J J are bars, round in their cross-section, their central portions vertical, and

Statement of the case.

their ends bent forward at right angles thereto, and are attached to the rear sides of the plates B. K K are the plow-beams. L L L L are the standards, and l l l l the shovels. M M are the handles, same as in ordinary cultivators. N N are the beam-plates, one to each beam, their rear ends attached to the beams K K, their forward ends projecting therefrom and formed as hereinafter described. P P are hook-bolts, their hooked ends encircling the vertical parts of the bars J J. Q Q are circular plates, pierced with holes through which the shanks of the hook-bolts P pass. R R R R are lugs on the plates Q, with semi-circular grooves on their faces next the bars J J, resting against said bars and holding the plates Q Q in a vertical position when pressed thereto. q q are segmental annular flanges on the outer edge of plates Q Q, which work in segmental annular recesses n n on the outer ends of the beam-plates N N. S S are segmental annular flanges projecting from the face of the plates Q Q, around the central holes through the same, forming fulcrums on which the beam-plates N N operate to allow the beams K K free vertical movement or oscillation without resting directly on the shanks of the bolts P P. T T are washers, pierced with holes, through which the bolts P P pass, and having segmental annular flanges t t on their faces next the beam-plates N N, which flanges fit into the recesses in the flanges S S and prevent the washers being turned by the frequent vertical movement of the plow-beams. U U are nuts on the outer ends of the bolts P P.

The operation is as follows: The axle is raised and lowered relatively to the wheels D D by adjusting the spindles E E in the slots e e. The axle A is held in working position, nearly vertical, by the segmental flanges q q on the plates Q Q engaging with the ends of the recesses n n in the beam-plates N N, while at the same time the recesses n n are a sufficient amount longer than the flanges q q to allow the beams the necessary amount of vertical movement for practical purposes.

Statement of the case.

It will be evident that the draft-plates B support and give direction to the course of the wheels, while the wheels in turn serve to support them.

At Fig. 2 it is plainly shown that either plow may be advanced forward of the other, and at the same time the beams be kept parallel, and the wheels D D neither inclined to the right or left, the wheel-spindles E E retaining their positions at right angles to the wheel-faces, to the line of progression, and to the plow-beams, each horse drawing his own plow in a great degree independent of the other, either end of the axle A advancing or falling back, turning on the pivotal bolts C.

The dotted lines Y Y and Z Z at Fig. 2 show plainly by their relative distances apart that the beams K K are not advanced, the one ahead of the other, as much as the draft-animals advance, the one ahead of its fellow, the distance of the lines Y Y apart showing the variations of the draft-animals, and the distance of the lines Z Z apart showing the variation of the beams.

What I claim as new, and desire to secure by letters patent, is—

1st. The combination, in a walking straddle-row cultivator, of the following instrumentalities, viz., two wheels, D D, axle A, and two plow-beams, K K, each beam carrying a handle and one or more shovels or plows, and independently hinged to the axle, so as to be retained in working position without rear connection or support, and move freely in a lateral, vertical, and longitudinal direction, substantially as and for the purpose specified.

2d. The axle A, hinged to the wheel-spindle or draft-plates B, so that the wheels are retained in the line of progression by the draft of the animals, when one is in advance of the other, substantially as described, and for the purpose specified.

3d. In combination with wheel D, draft-plate B, operating

Statement of the case.

to support and give direction to the wheel, substantially as and for the purpose specified.

4th. The combination of the plow-beams K K, axle A, and wheels D D, the latter being hinged or pivoted to the axle to permit of one side moving in advance of the other, substantially as described, and for the purpose specified.

5th. The hinged axle A, sustained in an upright or vertical position by means of the plow-beams K K and their shovels or plows and the joint-pieces which connect the beams to the axle, substantially as and for the purpose set forth.

6th. The eveners-bars G and bars H, combined and arranged to operate with the hinged axle A, plates B, and wheels D, substantially as and for the purpose specified.

JAMES H. PATTEE.

Witnesses:

W. B. RICHARDS,
ISAAC MARKS.

THOMAS W. KENDALL, OF CRESTON, IOWA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent, No. **174,684**, dated March 14, 1876; application filed February 1, 1876.

To all whom it may concern :

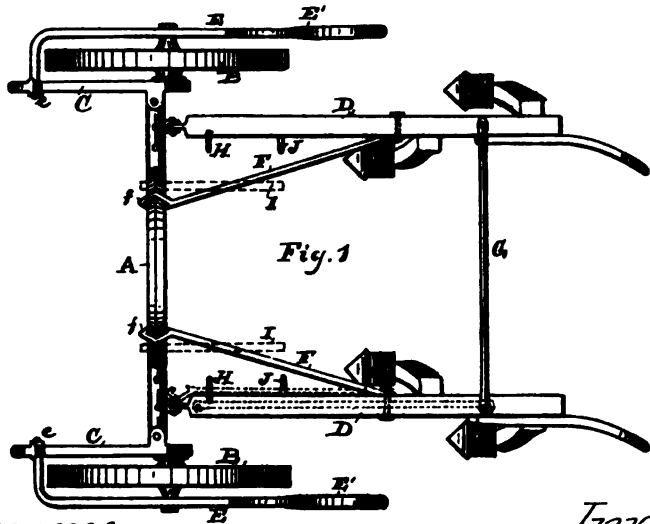
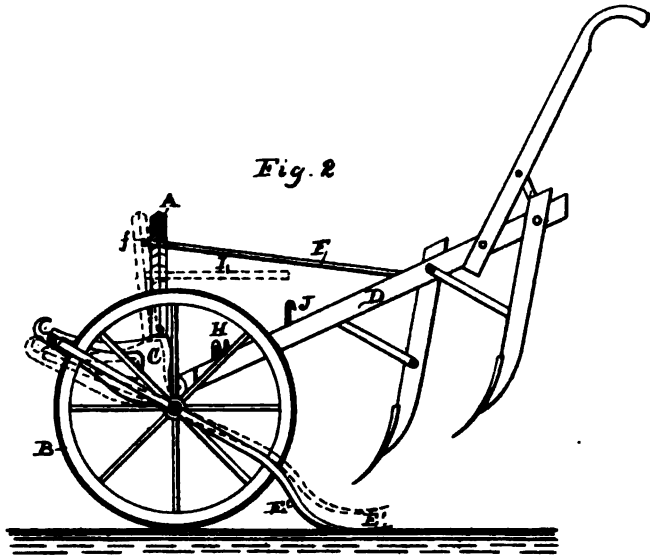
Be it known that I, THOMAS W. KENDALL, of Creston, county of Union and State of Iowa, have invented certain improvements in tongueless cultivators, of which the following is a full, clear, and exact description, and such as will enable others skilled in the art to make and use the same, reference being had to the annexed drawing, in which—

Fig. 1 is a top view of a cultivator embodying my invention, and Fig. 2 is a side elevation.

T. W. KENDALL.
CULTIVATOR.

No. 174,684.

Patented March 14, 1876.



Witnesses
L. Van Rensselaer
A. M. Wallum

Inventor:
Thomas W. Kendall,
By W. B. Richards,
att'y.



Statement of the case.

The nature of my invention relates to improvements in tongueless cultivators; and the invention consists, first, in the use of runners, attached to the truck-frame or axle in such manner that they will not interfere with the operations of the machine when in use, and will act as supporting-runners for the axle when the rear ends of the plows are elevated and suspended thereon; and, second, in the combination of hooks or rods for suspending the plows on the axle with said axle and plows, all as hereinafter fully described.

Referring to the drawing by letters, letter A represents the axle, B the wheels, C the draft-plates, and D the plows, of an ordinary cultivator of the tongueless class. E E are the runners, constituting the main feature of my improvement. They are journaled on the outer ends of the spindles of the wheels B, midway their lengths, and their forward ends curved inward, and secured to the draft-plates C by a threaded end and nut, *e*, while their rear ends are extended backward and downward, and curved into runners E', as plainly shown at Fig. 2, and in such position that when the plows are in operation in the field, and the axle A in its upright normal position, the rear ends E' of the runners E will be above and free from the surface of the ground, and when the rear ends of the plows are elevated and suspended by any means from the axle, the rear ends of the runners will rest upon the ground and support the axle from being pulled backward and downward.

It will be evident that the runners E may be attached rigidly to any suitable part of the axle at one or more points of attachment, and extend backward in the same manner as described for my runner, and perform the same functions in substantially the same manner.

F F are hook-rods, pivoted at their rear ends, one to each of the plow-beams, and their forward ends curved into clamps *f*, which may be slipped on the axle A, and which fit accurately thereon. The forward ends of the hook-rods F, when engaged with the axle, will sustain the plows in the elevated

Argument of counsel.

position shown at Fig. 2; and to prevent side movement while so elevated, they may be united by a rear cross-rod, G. H H are hooks, into which the rods F may be dropped at their forward ends, and thereby sustained when not in use.

A modification of the foregoing suspending device is shown by the dotted line, rearwardly-projecting bars I from the axle, on which the plows may be suspended by hooks J on their beams, also shown by dotted lines.

What I claim as my invention, and desire to secure by letters patent, is—

1st. The runners E, arranged to support the axle of a tongueless cultivator, with the plows D suspended therefrom, in manner substantially as described.

2d. The combination of the runners E, plows D, hook-rods F, and axle A, of a tongueless-cultivator, substantially as and for the purpose specified.

3d. The combination of the axle A, runners E, plows D, hook-rods F, and uniting cross-rod G, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my invention, I have hereunto affixed my signature this 13th day of November, 1875.

THOMAS W. KENDALL.

Witnesses:

THOMAS McKEE,

W. B. RICHARDS.

Mr. JOHN R. BENNETT, for appellant:

There is no authority for the contention that the second claim of the Pattee reissue should be interpreted to include the eveners.

The Court will not defeat the clear intention of the inventor by reading into the claim that which he has carefully excluded from it.

Argument of counsel.

White v. Dunbar, 119 U. S. 51 [16 Am. & Eng. 397]; *Lehigh Valley R. Co. v. Mellon*, 104 U. S. 118 [13 Am. & Eng. 200].

The English patent to Tasker is not an anticipation.

Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290]; *Cohn v. U. S. Corset Co.* 93 U. S. 366 [10 Am. & Eng. 473]; *The Cawood Patent*, 94 U. S. 695 [11 Am. & Eng. 235]; *Downton v. Yeager Milling Co.* 108 U. S. 471 [14 Am. & Eng. 513].

The 2d claim of the reissue is valid, being the same as, and a restatement of, the 1st claim of the original patent.

Gage v. Herring, 107 U. S. 640 [14 Am. & Eng. 454].

An English patent to anticipate a United States patent, must exhibit and describe the patented invention in such full, clear and exact language as to enable a person skilled in the art to which the invention relates to understand and construct it without the aid of invention.

Seymour v. Osborne; *Cohn v. U. S. Corset Co.*; *The Cawood Patent*; and *Downton v. Yeager Milling Co.*, *supra*.

Messrs. L. L. BOND and E. A. WEST, for appellees:

The machine controls the specification, and the machine and specification control the claims.

Case v. Brown, 2 Wall. 320 [7 Am. & Eng. 360]; *Fay v. Cordesman*, 109 U. S. 420 [15 Am. & Eng. 1]; *Bussey . Excelsior Mfg. Co.* 110 U. S. 137 [15 Am. & Eng. 77]; *Clements v. Odorless Excavating Apparatus Co.* 109 U. S. 648 [15 Am. & Eng. 44].

If the claim has been enlarged, and more than two years elapsed between the issue and reissue, then the rule stated by the Supreme Court in *Miller v. Bridgeport Brass Co.* 104 U. S. 350 [13 Am. & Eng. 303], will apply.

James v. Campbell, 104 U. S. 356 [13 Am. & Eng. 341]; *Johnson v. Flushing & N. S. R. Co.* 105 U. S. 539 [14 Am. & Eng. 19]; *Bantz v. Frantz*, 105 U. S. 160 [13 Am. & Eng. 542]; *Wing v. Anthony*, 106 U. S. 142 [14 Am. & Eng. 188];

Opinion of the Court.

Hoffheins v. Russell, 107 U. S. 132 [14 Am. & Eng. 312]; *McMurray v. Mallory*, 111 U. S. 97 [15 Am. & Eng. 171]; *Turner & S. Mfg. Co. v. Dover Stamping Co.* 111 U. S. 319 [15 Am. & Eng. 238]; *Wollensak v. Reiher*, 115 U. S. 96 [16 Am. & Eng. 162]; *Clements v. Odorless Excavating Apparatus Co.* 109 U. S. 641 [15 Am. & Eng. 44].

The specification could not be substantially changed so as to enlarge the scope of the invention as originally claimed.

Russell v. Dodge, 93 U. S. 463 [10 Am. & Eng. 495]; *Johnson v. Flushing & N. S. R. Co.* 105 U. S. 546 [14 Am. & Eng. 19]; *Torrent & Arms Lumber Co. v. Rodgers*, 112 U. S. 659 [15 Am. & Eng. 396].

The application of an old process or a machine to a similar or analogous subject will not sustain a patent.

Pa. R. Co. v. Locomotive E. S. Truck Co. 110 U. S. 490 [15 Am. & Eng. 148].

Mr. Chief Justice FULLER delivered the opinion of the Court:

This is an appeal from a decree of the Circuit Court of the United States for the Eastern District of Missouri, dismissing appellant's bill of complaint.

The bill charges appellees with infringement of the 2d claim of reissued letters patent No. 6080, dated October 6, 1874, which is a reissue of original patent No. 124,218, to J. H. Pattee, dated March 5, 1872; of the 1st and 2d claims of original patent No. 174,684, granted Thomas W. Kendall, March 14, 1876; and of original patent No. 187,899, granted Henry H. Pattee, February 27, 1877: all for improvements in cultivators.

Appellee is an Illinois corporation, having a branch house in St. Louis, selling, among other things, cultivators manufactured by B. D. Buford & Co., at Rock Island, Illinois, which are the alleged infringing machines.

The opinion of the Circuit Court was as follows:

"Reissued patent 6080, of 1874, 2d claim of which is
129 U. S. 295.

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under consideration, has, as to that claim, expanded the original beyond legal limits. Therefore, said reissued patent is void to the extent claimed, wherein the defendant is alleged to have infringed. Second, as to the Kendall patent No. 174,684, there is no infringement. Third, as to the Pattee patent of 1877, No. 187,899, said patent is void, there being no novelty of invention therein that is patentable."

The second specification of the original Pattee patent, No. 124,218, states that the invention consists—

"In pivoting the wheels to the axle in such manner that the wheels may either one be advanced forward of the other, throwing the axle diagonal with the line of progression, while the wheels preserve the same relative position to the said line of progression."

The second specification of the reissue reads as follows:

"It consists in *hinging the end of the axle to plates, to which the draft animals are attached, and which are supported on wheels* in such manner that the wheels are retained in the line of progression of the machine by the draft of the animals, and may either one be advanced forward of the other, throwing the axle diagonal with the line of progression, while the wheels preserve the same relative position to the said line of progression."

The fourth specification of the original is:

"It consists in the peculiar construction of the hitching device, allowing the draft animals to advance or recede, the one ahead or in the rear of the other, without influencing the plow beams to the extent of the variation made by the said animals, all as hereinafter fully described."

The sixth specification of the reissue is:

"It consists in the *arrangement of a hitching device with the draft-plates, which allow the draft animals to advance or recede, the one ahead or in rear of the other, without influencing the plow beams to the extent of the variation made by the said animals, all as hereinafter fully described.*"

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The description of the accompanying drawings is given in the original and in the reissue, thus:

Original.

"A is the axle, bowed or elevated at its central part. B B are plates secured to the ends of the axle A. The ends of the plates B B are *turned outward*, forming *snugs* *b b b b*. *b*¹ *b*¹ are snugs projecting inward from the plates B B. C C are *triangular-shaped draft plates*, from which project snugs *c c c c*, corresponding with the snugs *b b b b*. D D are pins or bolts, passing through holes in the snugs *c c* and *b b*, and thereby pivoting the plates C C to the axle A. E E are the wheels. F F are the wheel spindles, their inner ends shouldered, threaded, and secured in slots *e e* in the lower ends of the plates C C by nuts *f f*. G G are eveners, pivoted near their centers in the forward ends of the plates C C. H H are bars, their forward ends pivoted to the inner ends of the eveners G G, and their rearward ends pivoted to the snugs *b*¹ *b*¹. I I are hooks on the outer ends of the eveners G G, to which the draft animals are attached."

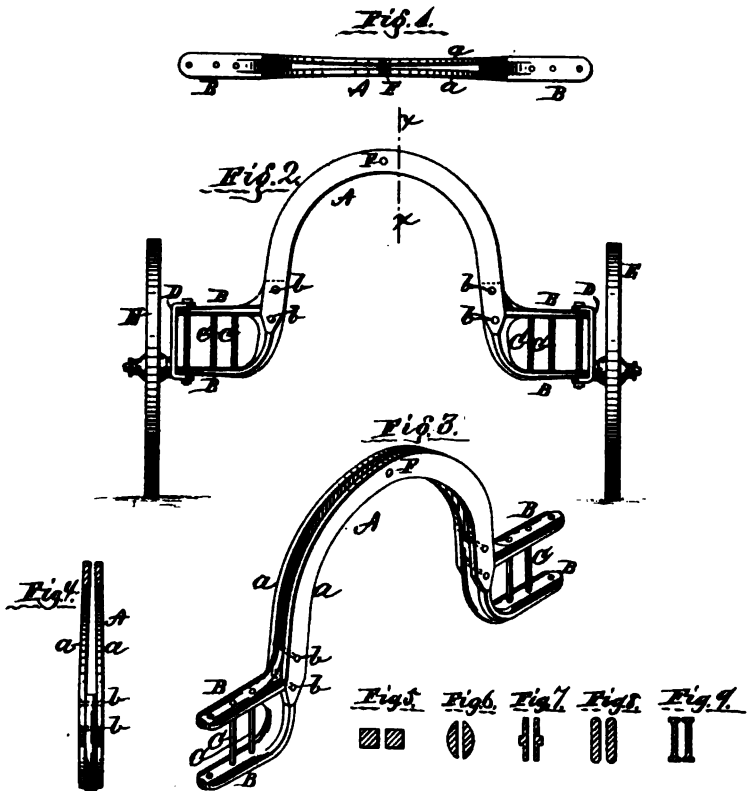
Reissue.

"A represents the axle, formed, as shown in the drawings, of an elevated central part, A, vertical side portions A¹ A¹, and *horizontal projections* *a a*, from each of the vertical side portions A¹. B B are draft-plates, with projecting forward ends *b*, to which the draft animals *may be attached direct* or by *any suitable device*, and with an enlarged rear end, from which project lugs *b*¹ *b*¹, corresponding with the *projections* *a a* of the axle A, to which they are hinged by vertical bolts C, as plainly shown in the drawings. D D are the supporting wheels. E E are the wheel spindles, their inner ends shouldered, threaded, and secured in slots *e* in the lower ends of the plates B by nuts *e*¹. G G are eveners, pivoted near their centers in the forward ends of the plates B. H H are bars, their forward ends pivoted to the inner ends of the eveners G G, and their rearward ends pivoted to lugs *a*¹ *a*¹, which project inwardly from the vertical parts A¹ of the axle. I I are hooks on the outer ends of the eveners G G, to which the draft animals are attached."

H. H. PATTEE.
CULTIVATOR.

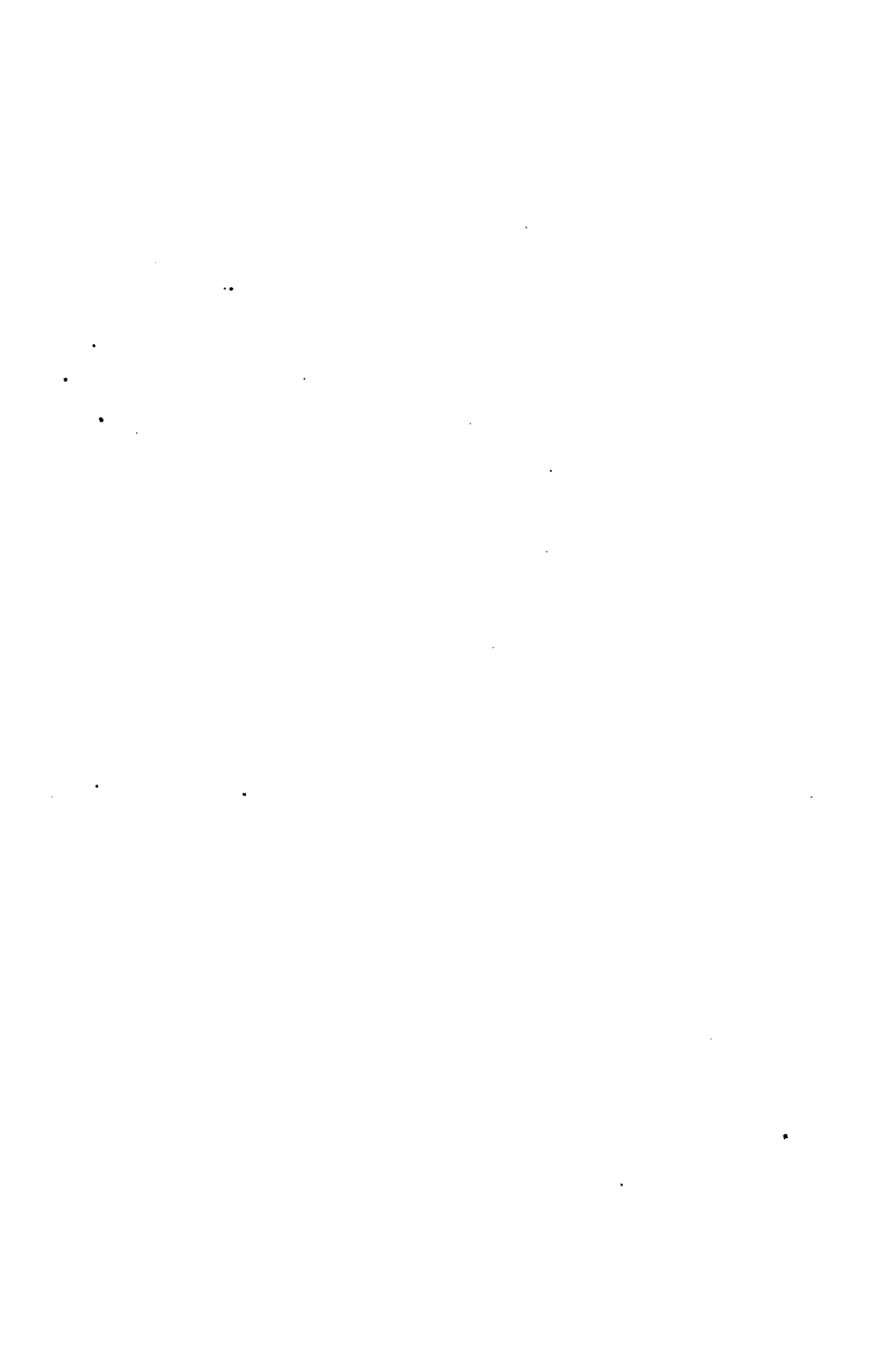
No. 187,899.

Patented Feb. 27, 1877.



Witnesses:
M. H. Rapping
R. H. Richards

Inventor:
H. H. Pattee,
R. H. Richards,
att.



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From this on, the original and reissue specifications are substantially alike, the description of Fig. 1 of the reissue closing with the words: "It will be evident that the draft-plates B support and give direction to the course of the wheels, while the wheels in turn serve to support them."

The 1st claim of the original is for:

"The axle A, having plates, B, hinged to the wheel-spindle plates C, so that the wheels are retained in the line of progression when one is in advance of the other, as set forth."

The 2d claim of the reissue is for:

"The axle A, hinged to the wheel-spindle or draft plates B, so that the wheels are retained in the line of progression *by the draft of the animals*, when one is in advance of the other, substantially as described and for the purpose specified."

The 3d claim of the original is:

"The evener bars G G and bars H H, when combined and arranged to operate with the hinged axle A, plates C and wheels E E, substantially as and for the purpose specified."

And the 6th claim of the reissue:

"The evener bars, G and bars H, combined and arranged to operate with the hinged axle A, plates B, and wheels D, substantially as and for the purpose specified."

That purpose is stated in the 2d claim, to be the retaining of the wheels "in the line of progression by the draft of the animals, when one is in advance of the other," and as this purpose can only be accomplished by the aid of the evener bars G G and bars H H, that is, not by the combination of the 2d claim alone, but only by carrying into it the eveners and bars of the 6th claim, it follows that the latter must be brought into the former by intentment.

In the original patent the mode of attachment of the team to the cultivator is stated to be by the hooks I I "on the *outer ends* of the *eveners* G G, to which the draft animals are *attached*," while the reissue patent contains these words: "B B are draft plates, with projecting forward ends *b*, to which

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the draft animals may be attached *direct*, or by any suitable device."

An examination of the machine discloses that the wheels are kept in the line of progression by the eveners G G and their connection; and when they are dispensed with, and the hitch made direct, the wheels follow the animals and may get out of the line of progression.

As it is admitted that if the eveners are elements of the 2d claim, the effect of their omission and of hitching directly to the draft plates instead of to the eveners would be to enlarge the claim, and as in our judgment this is precisely what was done, the reissue must be held to have been illegally expanded.

It may also be observed that the connecting bow in the original patent, called an axle, consists of a central curved portion with a plate attached to each end, and two spindle plates—a combination of five parts. In the reissue the axle and side plates are treated as one part, making with the two spindle draft plates three parts. There is, therefore, an omission in the latter combination which tends, by reducing the number of elements, to render its scope less narrow than that of the original.

As we have seen, the original first claim was for "the axle A, *having plates B*, hinged to the wheel spindle plates C, so that the wheels are retained in the line of progression when one is in advance of the other, as set forth."

The 2d claim of the reissue is for the "axle A hinged to the wheel spindle or draft plates B B, so that the wheels are retained in the line of progression *by the draft of the animals*, when one is in advance of the other, substantially as described, and for the purpose specified."

The axle having plates as described hinged to wheel spindle plates, is not identical with an axle omitting the first named plates, or having them so affixed as to become a constituent part thereof. The omission of the plates B and the

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addition of the direct draft are significant and material changes; and it is well settled that a reissue can only be granted for the same invention intended to be embraced by the original patent; and the specification cannot be substantially changed, either by the addition of new matter or the omission of important particulars, so as to enlarge the invention as intended to be originally claimed.

Passing to the question of infringement, it will be found that when the extent of the invention is determined, as it must be, by reference to the state of the art, the appellee's machine does not infringe in respect to those parts of the claim which can be held to have been unanticipated. It is alleged in the bill that in *Pattee v. Moline Plow Company*, in the United States Circuit Court for the Northern District of Illinois, the Court sustained the validity of said reissued letters patent No. 6080. Upon referring to that case (10 Biss, 377 and 9 Fed. Rep. 821), we find that Judge BLOWETT held: "From the proof in this case it is quite clear to me that Pattee was not the first to conceive and embody in a working machine the idea of a tongueless straddle-row cultivator. The first machine shown in the proof which embodies this idea is that patented by Isaac Constant, in November, 1851. It is a tongueless straddle-row cultivator, with all the elements for a working machine of that description, and so arranged as to be what may be called in this art self-sustaining, that is, it will stand upon its own supports. This was also done by Arnton Smith, in January, 1855; by Whitely, in 1860 to 1865; by E. W. Vangundy, in February, 1864; by Pratt, in October, 1864; and by Adam Young, in November, 1866. All these show cultivators constructed without a tongue, with two plow beams held together by a yoke, each plow drawn by its own draft animal and operating independently of the other."

The Constant patent here referred to is in this record and shows a tongueless cultivator, in which the inside beams move vertically and laterally independent of each other, and

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each draft animal is hitched to its own side, while the side supports are beams to which two cultivator shovels are applied.

The Smith machine is a tongueless cultivator, in which two mold-board plows are connected together by a bar in front, not arched up in the center. A horse is to be attached to each plow, and the coupling so made as to allow an independent motion.

Of the Pratt patent, Judge BLODGETT says that Pattee's arched and jointed axle is fully anticipated by it in form of construction, function, and mode of operation. This Pratt patent shows a flexible, parallel, tongueless cultivator, in which each horse pulls his own side of the machine.

The patent to William Tasker of 1859 has an axle hinged to draft or spindle arms, having projecting bars so coupled that the wheels are retained in the line of progression by the draft of the animals. Tasker's 5th claim is: "The connecting of the wheel stumps to a vertical spindle or spindles, capable of turning freely in vertical collar bearings or sockets, as hereinbefore described." The description as to this part of his machine is thus: "J J are adjustable stumps for carrying the running wheels K K. These stumps pass through the overhanging lugs L L, formed at the top and bottom of each of the round spindles M M which are contained in the vertical sockets N N (one of which is shown in section in Fig. 3) of the cast-iron frame C, and are free to turn therein; thereby enabling the stump of each wheel to swivel or lock round when turning the plow, as shown by the dotted lines in Fig. 2."

If Pattee's claim were merely for a combination of an axle, having an elevated central portion, with the wheel-spindles, so that the draft of the team controls the direction of the wheels, the Tasker patent anticipates it, but the combination differs from that in the arrangement by which the eveners bars are carried inwardly, so as to connect with the arch or central part of the axle, making the axle a part of

129 U. S. 300-301.

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the evener so combined, and thus maintaining the parallelism of the wheels.

Appellee's machine does not have "the wheel-spindles or draft-plates" of the patent, nor the axle A with side-plates B, but it uses the Pratt axle of 1864. Nor in appellee's machine is the parallelism of the wheels maintained by the draft devices, nor are they retained in the line of progression by the draft of the animals, but turn as the animals may pull. The beam-frames of appellee's machine have nothing to do with the wheel-spindle. The snugs of Pattee's have nothing to do with the plow-beams. The differences are so great that interchangeability of the parts of the two machines would be utterly out of the question.

In our judgment the reissue, if valid, when limited to what alone could be claimed as new, is not infringed by appellee.

The 1st and 2d claims of the Kendall patent, No. 174,684, are as follows:

"1st. The runners E, arranged to support the axle of the tongueless cultivator, with the plows D suspended therefrom, in manner substantially as described.

"2d. The combination of the runners E, plows D, hook-rods F, and axle A of a tongueless cultivator, substantially as and for the purpose specified."

As stated on behalf of appellant, "The 2d claim in said patent is a claim for substantially the same combination as recited in the 1st claim, but differently worded from the 1st claim," and, as the hang-up devices are necessary for the suspension of the plows, the two claims may be treated as one.

The invention is said in the specifications to consist of the use of runners attached to the truck-frame or axle in such manner that they will not interfere with the operations of the machine when in use, and will act as supporting runners for the axle when the rear ends of the plows are elevated and suspended thereon; and, second, in the combination of

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hooks or rods for suspending the plows on the axle, with said axle and plows.

The drawings show the axle, the wheels, the draft-plates, and the plows of an ordinary cultivator of the tongueless class. The runners, constituting, as alleged, the "main feature" of the improvement, are journaled on the outer ends of the spindles of the wheels, mid-way their lengths, and their forward ends curved inward, and secured to the draft-plates by a threaded end and nut, while their rear ends are extended backward and downward, and curved in such position that when the plows are in operation in the field and the axle upright, the rear ends of the runners will be above and free from the surface of the ground, and when the rear ends of the plows are elevated and suspended by any means from the axle, the rear ends of the runners will rest upon the ground and support the axle from being pulled backward and downward.

In short, as in the machines with a tongue, the plows are raised up and suspended from the tongue to keep them off the ground, so in the tongueless machine the plows are raised up and hooked on to the axle, and, to prevent their falling backward with the axle, runners are provided, connected with the axle and the hitching-arm of the machine, which sustain the axle when the plows are hooked on, but are themselves raised from contact with the ground by the draft when the plows are in use.

The runners are described as "journaled on the outer ends of the spindles," but it is also stated that they "may be attached *rigidly* to any suitable part of the axle at one or more points of attachment, and extend backward in the same manner as described."

These runners, having the wheel-spindle or axle for their fixed point of support, are necessarily rigid and unyielding, and work automatically, their rear ends being raised by the pulling of the team, and lowered by the weight of the plow-beams when placed on the hooks.

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The rigidity of the runners and the resulting automatic action are the essential characteristics of the patent; for tongueless wheel cultivators with runners to keep the plows off the ground were common and well known in the art when it was issued.

It is contended by appellant that the true state of the art is contained in the prior patents of Poling of 1872 and Robertson of 1875; and, while many others are exhibited, an examination of these will, we think, sufficiently establish the conclusion just expressed.

Poling's patent is for tongueless cultivator, provided with runners, which are placed under the beams by hand, when the plows are being transported, and which are taken out and carried on the beams when the plows are in operation.

Robertson's patent is for a tongueless cultivator, with draft-plates, wheels, and beams, and runners pivoted to the beams near the axle, and arranged with set screws to lock the plows up and let them down. It is immaterial to the operation of the runners whether they act directly on the plow-beams or through the axle.

In appellee's machine the runner is arranged upon the end of an arm which projects backward from the axle. When the plows are in use the runner is turned up out of the way. When the runners are used, the plows are raised and the runners prevented from turning up by a catch on the arm.

This machine does not contain runners constructed as the Kendall runners are, in the rigid form, and operated by the draft of the team to keep them off, or by the weight of the plows to keep them on, the ground; and so lacks the distinctive features of the Kendall patent.

It is not automatic, but requires manipulation every time the use is changed.

When the runner is put in use its rear extension is turned down by hand, and a locking-dog, hung within a slot in the arm, turned into position. When the runner is not to be used, it must be moved so as to release the dog and permit

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it to be thrown up; and the arm is then thrown upward and forward, the dog being allowed to drop so as to afford a support for the runner.

This jointed runner with a lock cannot be held to be the Kendall rigid bar.

We agree with the Circuit Court that there is no infringement.

Patent No. 187,899 is described as being for a new and improved mode of constructing the arch or central, and main part of straddle-row cultivator beam-yokes or axles, and of connecting the side parts thereto, and the invention as consisting "in constructing said arch of curved adjacent bars of iron or steel, to the ends of which may be attached, by riveting, the cast-iron parts for securing thereto the plows and wheels, and which may be strengthened by the use of stiffening bolts."

The use of parallel bars is exceedingly common, and so far as the attachment of the bars to the end plates is concerned, there is nothing new in that method.

The Burnham and Lathrop patent of 1866 shows a yoke connecting the plow-beams together, made with two parallel bars with end castings, put together with one bolt near the rear ends of the beams instead of with two bolts at the front ends, as in appellant's machine. The specification says: "The two frames G G are connected by an arched or semi-circular yoke H^x, the ends of which are pivoted to bars I I, which are secured on the tops of the plow-frames G G by pivots e, the bars being allowed to turn freely on the pivots e."

The Louden patent of 1876 has an arched axle of tubular wrought-iron—gas-pipe being stated to be very suitable—having end castings attached rigidly, or cast thereon.

The bar patent of 1872, and the Miller patent of the same year, show arched axles or beam-yokes of two or more parts.

The Perkins patent of the same year shows the beams themselves made of parallel curved bars.

Notes and citations.

What is sought in all these patents is strength and lightness, together with cheapness and durability, but they are simply modes of construction. And that described in this patent embraces nothing that is not old, and really nothing that is patentable, that is, which involves invention rather than mechanical skill.

Upon the whole case we are satisfied with the conclusions reached by the Circuit Court; and its decree is, therefore, affirmed.

129 U. S. 304-305.

Notes :

1. Reissue of an original combination for a combination of a greater or less number of elements.

Gill v. Wells, 22 Wall. 1 [9 Am. & Eng. 471].

Matthews v. Boston Machine Co. 105 U. S. 54 [13 Am. & Eng. 501].

Bantz v. Frantz, 105 U. S. 160 [13 Am. & Eng. 542].

Johnson v. Railroad Co. 105 U. S. 539 [14 Am. & Eng. 19].

Herring v. Gage, 107 U. S. 640 [14 Am. & Eng. 454].

Clements v. Odorless Co. 109 U. S. 641 [15 Am. & Eng. 44].

McMurray v. Mallory, 111 U. S. 97 [15 Am. & Eng. 171].

Torrent Co. v. Rodgers Co. 112 U. S. 659 [15 Am. & Eng. 396].

Newton v. Furst & Co. 119 U. S. 373 [16 Am. & Eng. 450].

Hoskin v. Fisher, 125 U. S. 217 [17 Am. & Eng. 589].

Electric Gas Lighting Co. v. Boston Electric Co. 129 U. S. 503.

Patents in suit:

No. 124,218. J. H. Pattee. March 5, 1872 Cultivator.
Reissue No. 6080. October 6, 1874.

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Notes and citations.

No. 174,684. T. N. Kendall. March 14, 1876.

No. 187,899. H. H. Pattee. February 27, 1877.

OTHER SUITS ON SAME PATENTS:

Pattee v. Moline Plow Co. 1881. 10 Biss. 377; 9 Fed.Rep. 821;
22 O. G. 173.

Pattee Plow Co. v. Kingman, 1885. 23 Fed. Rep. 801.

Cited:

IN SUPREME COURT IN:

Hill v. Wooster, 1889, 132 U. S. 693.

IN CIRCUIT COURTS IN:

Huber v. N. O. Nelson Mfg. Co. May, 1889. 38 Fed. Rep. 830.

IN TEXT BOOKS:

Walker on Patents, 2d ed. 1889. pp. 21, 185.

Robinson on Patents, 1890. § 693.

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Syllabus.

GEORGE M. PETERS, APPELLANT, v. THE ACTIVE
MANUFACTURING COMPANY.*

129 U. S. 530-541. October Term, 1888.

[Bk. 32, L. ed. 738; 47 O. G. 948.]

Affirming *Ibid*, 21 Fed. Rep. 319.

Argued January 25, 1889. Decided March 5, 1889.

Particular patent void for want of invention. Application of old device to new use. Change in size.

1. Claims 1 and 2 of letters patent, No. 178,463, granted June 6, 1876, to George M. Peters, for an Improvement in Tools for attaching Sheet-metal Moldings. The substance of the invention consisting in the use of a sheath or holder having in it a longitudinal groove or channel in which is placed the molding which is to be applied to the upper edge of the dash-board. *Held*, to be anticipated by a machine used by Joseph P. Noyes, as early as September, 1867, although the Noyes machine was a comparatively small machine and was used only for applying moldings to combs. (p. 400.)
2. Claim 3, in which washers to render the sheath capable of adjustment formed an element, *held* not infringed by defendant's apparatus, in which no washers are used for adjustment. (p. 405.)

[Cited in the opinion of the court:]

Woodbury Planing Machine Co. v. Keith, 101 U. S. 490 [12 Am. & Eng. 404]. p. 401.

Pennsylvania Railroad Co. v. Locomotive Truck Co. 110 U. S. 490 [15 Am. & Eng. 148]. p. 405.

Appeal from a decree of the Circuit Court of the United States for the Southern District of Ohio, dismissing a suit for infringement of letters patent, No. 178,463, granted

* See Explanation of Notes, page III.

Argument of counsel.

June 6, 1876, to the plaintiff, George M. Peters, for an improvement in tools for attaching sheet metal moldings.

The facts are stated in the opinion.

Mr. BENJAMIN BUTTERWORTH, for appellants:

The purposes and objects of the plaintiff's invention and of the alleged Noyes machine are so widely different, that if the metal sheaths on the backs of combs were not called moldings the idea that this invention is the result of a double use of the Noyes apparatus would never have been broached in the case. The connection is solely the result of a similarity in names, not in things.

There is no adjustable stop in any of the alleged anticipatory devices, neither in the Noyes machine, nor the Richmond stick.

Another point in which the Peters machine differs from both the alleged anticipatory devices is in having the sheath made in two parts, so that they are connected together by bolts, and can be adjusted toward and from each other to accommodate moldings of different diameters.

No provision for adjustment is shown in the Noyes machine or the Richmond stick.

The points of difference between the Peters invention and the devices alleged to anticipate it may be summarized as follows: 1. Total difference in purpose and object. 2. Total difference in organization of apparatus. 3. In adjustability of stop in sheath. 4. In adjustability of sides of sheath. 5. In provision for application of moldings with "trumpet mouths."

Moreover, the numerous peculiarities of construction set out in the specification of appellant's patent are read into the claim by the words "the within-described sheath;" and—

"Where the claim follows the description of the invention it may be construed in connection with the explanations contained in the specifications, and where it contains words

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referring back to the specifications, it cannot be properly construed in any other way." Curtis on Patents, 3d ed. 225, cited with approval by this Court in Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290]; Brooks v. Fish, 15 How. 215 [6 Am. & Eng. 15]; and Bates v. Coe, 98 U. S. 81 [12 Am. & Eng. 150].

In view of all this, it would seem that the rule laid down in the opinion of this Court in the Illinois Central R. R. Co. v. Turrill, 94 U. S. 695 [11 Am. & Eng. 235], must apply.

Admitting the existence of the device referred to as the Noyes machine, it will be seen that the Peters device is such a modification or "improvement" of it for a new use as to presuppose invention.

Bray v. Hartshorn, 1 Cliff. 538; Losh v. Hague, Web. Pat. Cas. 207 [2 Am. & Eng. 501]; Hendon on Pat. 95; Phillips v. Page, 24 How. 166 [7 Am. & Eng. 97]; Norman on Pat. 25.

The defence of non-infringement is urged against Claim 3. The point urged is that the defendant's and appellee's machine has no "washers D;" but Exhibit No. 3 shows appellee's sheath made in two parts bolted together. It has the capability of adjustment. Adjustment is secured in appellant's sheath by making the washer D thinner or thicker. At the particular point of adjustment at which appellee's machine was left the washer had become so thin that it disappeared. The moment it was put into use, and a molding of greater diameter was to be applied, a "washer D" would be introduced. It was only left out in a vain effort to avoid infringement. The appellant's combination has been adopted in substance.

"It is not necessary in order to constitute infringement of a combination, patented as such, that the *whole combination* should be used. If a part of it only, that, separate from the rest, was *new and patentable to the inventor* is used, taking that part is an infringement *pro tanto*." Adair v. Thayer, 4 Fed. Rep. 441.

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Mr. ARTHUR STEM, for appellee :

The appellee clearly proves the use of the tool illustrated by Exhibit C as early as September, 1867, by Mr. Joseph P. Noyes, at Binghampton, N. Y.

Noyes' testimony is fully confirmed by Yingling. The appellant's efforts to rebut this by calling four witnesses to testify that they worked in Noyes' shop, but did not see this device, is of little weight. First, because the testimony was taken without sufficient notice, and no cross-examination was made; second, they have given no reason why the device might not have been there without their seeing it; third, they are not shown the device, or a drawing of it, but are given only a general, uncertain, and not very intelligent description of it; and the fact that they do not recognize the description as applying to any small tool in Noyes' shop they may or may not have seen, is not proof that it did not exist.

The Noyes device is identical in all material points with the 1st and 2d claims of the patent sued on.

There is no legal question involved in this case which is not too well settled to need any argument.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought in the Circuit Court of the United States for the Southern District of Ohio, in January, 1882, by George M. Peters, against the Active Manufacturing Company, for the alleged infringement of letters patent, No. 178,463, granted June 6, 1876, to the plaintiff, George M. Peters, for an improvement in tools for attaching sheet metal moldings, on an application filed March 7, 1876.

The specification, drawings, and claims of the patent are as follows:

"My invention comprises a peculiarly constructed sheath or holder, wherewith the ornamental molding on the top of the carriage dashes may be applied in the most expeditious

Opinion of the Court.

manner, and without bending or buckling, or otherwise injuring or marring either said molding or its supporting dash-board.

"In its preferred form, said sheath consists of a two-part holder or receiver, connected together with bolts and washers, and provided with a longitudinal groove or channel of such size and shape as to readily inclose the molding that is to be applied to the upper edge of the dash, a key or other suitable stop being fitted within the sheath to prevent the molding slipping through said longitudinal groove when the device is in use.

"The sheath is rendered capable of carrying moldings of various lengths and sizes by an arrangement of adjusting devices whose details of construction will be hereinafter more fully explained.

"In the accompanying drawing, forming part of this specification, Fig. 1 is a perspective view of a two-part sheath in an inverted position, the middle portion and rear end of the device being broken away. Fig. 2 is a perspective view of the molding detached from sheath. Fig. 3 is a plan showing the molding located within the sheath. Fig. 4 is a longitudinal section through the rear end of the sheath, with a screw stop for the molding to bear against. Fig. 5 is a transverse section at the line *z z*, showing the molding incased within the sheath; and Figs. 6 and 7 represent modifications of the holder.

"A and B represent two metallic bars of any appropriate size, and having their lower outer edges slightly beveled off at *a* and *b*. These bars are maintained in a parallel position with reference to each other by means of bolts or screws C, and washers or fillings D. Instead of washers and bolts or screws C, the bars may be maintained in parallel position, and separated or brought nearer together by means of right-and-left screws, the right-hand thread of said screw engaging a female screw in one bar, and the left-hand thread engaging a female screw in the other.

G. M. PETERS.

TOOLS FOR ATTACHING SHEET-METAL MOLDINGS.

No. 178,463.

Patented June 6, 1876.

FIG. 1.

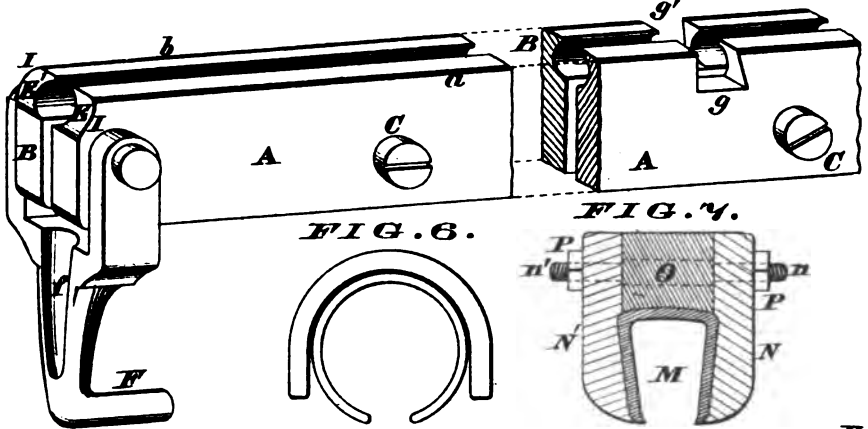


FIG. 6.

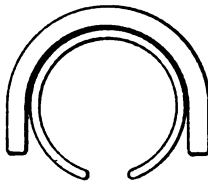


FIG. 4.

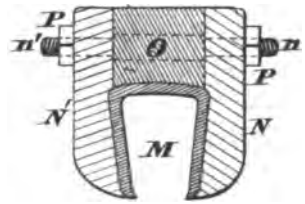


FIG. 2.



FIG. 3.

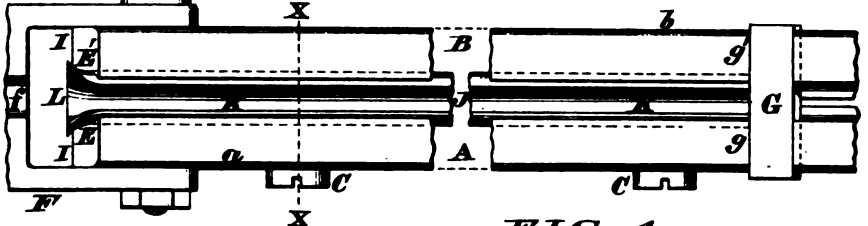


FIG. 4.

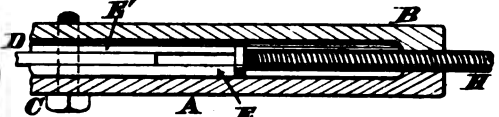
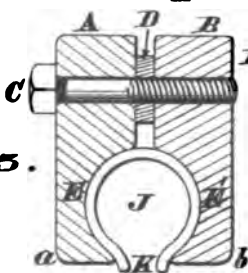
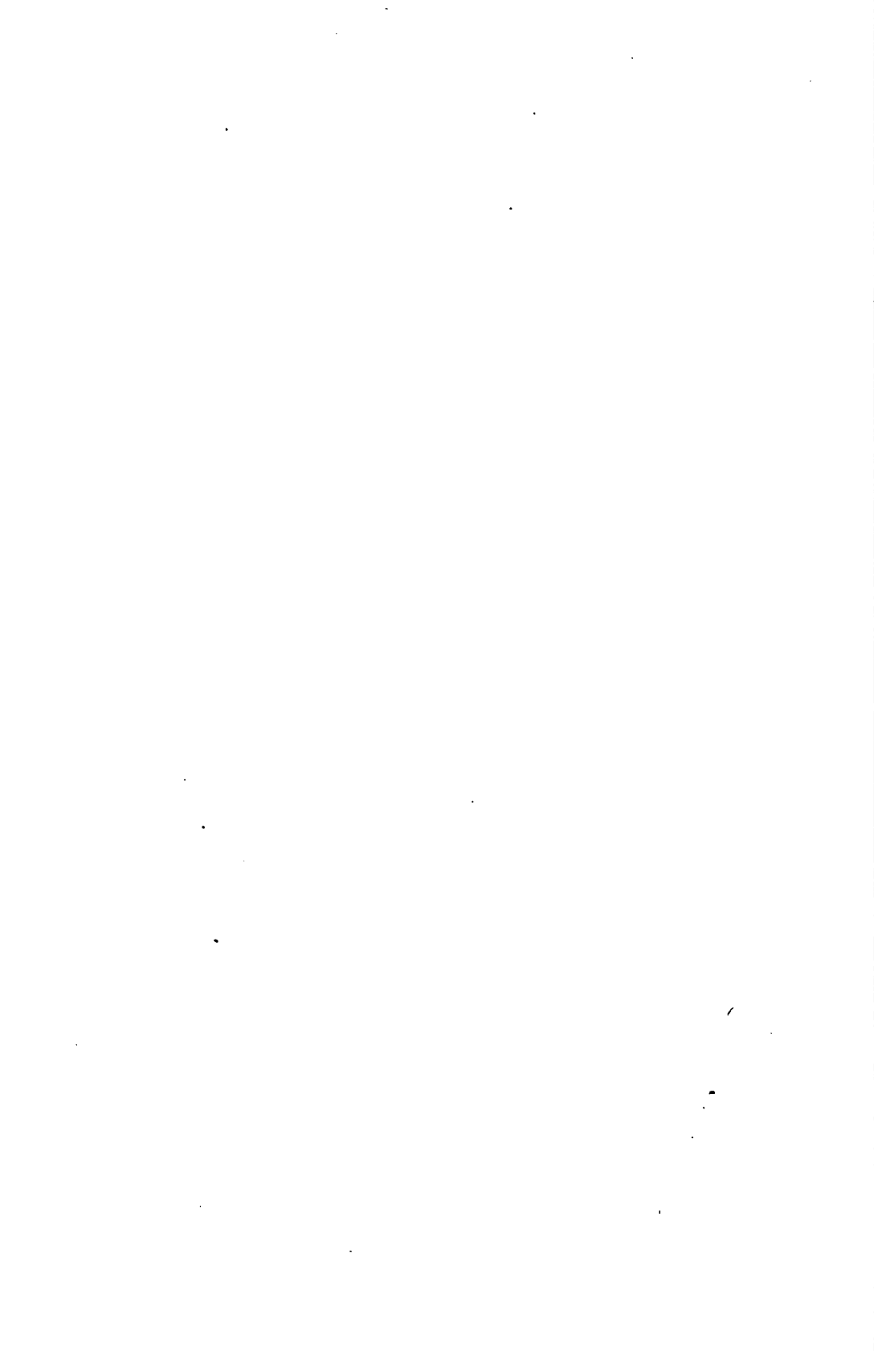


FIG. 5.



Attest.
J. H. Fisher
Notary Public

George M. Peters per
Wm. Hubbell Fisher
Att'y.



Opinion of the Court.

"The bar A has a longitudinal groove, E, formed along its inner surface and near the lower edge of said bar. E' is a precisely similar groove made in the other bar, B, and when the two members A B of the sheath are joined together the grooves E E' form a channel that is approximately circular in its transverse section.

"F represents a hook, shackle, or link, pivoted to the front end of the sheath and guttered at f, to avoid contact with the upper edge of the dash.

"The bars are furnished with undercut notches g g' to receive a detachable key, G, which latter serves as a stop or abutment for the rear end of the molding to rest against. A series of similar notches may be made in the bars A B at such distances from the front end of the sheath as will correspond with the various lengths of moldings; or, if preferred, the notches and key may be dispensed with, and a screw, H, may be arranged for the molding to bear against, as seen in Fig. 4. This screw may be adjusted out or in to agree with the length of the molding.

"The advancing end of the sheath is rounded off at I, so as not to tear up the leather coverings of the dash while the molding is being applied. The molding consists of a sheet metal tube, J, having a longitudinal slot or parting, K, and a flaring or trumpet-mouthed end, L. This trumpet-mouth is located at the forward end of the molding.

"As represented in Fig. 7, the sides of the molding M are straight and have an outward flare, the top of said molding being somewhat crowning. This illustration shows a three-part sheath, the two outer bars N N' being secured to the central member O by right and left-hand screws n n' and nuts P. Fig. 6 represents the sheath as made of a single piece of metal or other suitable material.

"Previous to using the sheath the key G is first inserted in the notches g g', at such a distance from the end I as will correspond with the length of molding J, which latter is then slid into the groove E E', the rear end of said molding being

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brought in contact with the vertical edge of said key. When thus located within the sheath the flaring mouth L of the molding has a slight projection beyond the chamfered end I of the bars A B, as represented in Fig. 3. The carriage dash is then held perfectly rigid, and the upper margins of the coverings of the same are inserted in the flaring end L of the molding, after which any suitable power is applied to the hook F to draw the sheath along the top of said margins or projections. As the sheath advances the flaring mouth serves to conduct the leather margins into the slot K of the molding, and as the grooves E E' prevent any radial distension of the tube J, it is evident that the molding is caused to embrace said margins in the most uniform and secure manner. After the molding has traversed the entire length of the dash the sheath can then be retracted, thereby leaving the tube J in its proper position upon the dash, the flaring end L being either filed off or else disposed of in any other suitable manner. During the progress of the sheath along the top of dash, the molding is impelled forward by the key G, and consequently no strain whatever is brought to bear upon the flaring end L of the tube.

"As a considerable degree of force is required to anchor the molding J securely to the leathern margins, it is evident that the driving action of key G would have a tendency to buckle said tube; but this defect is obviated by making the channel of the sheath of such capacity as to allow a pretty snug fit of the molding within it.

"When a longer molding is to be applied to a dash, the key G is driven out and inserted in another set of notches nearer the rear end of the sheath; or the same results may be effected by causing the molding to abut against the end of screw H, the latter being adjusted either out or in, so as to agree with the length of molding that the sheath is to carry. The width of channel E E' may be increased, to receive a molding of greater diameter, by removing washers or filling, and inserting thicker ones in their place, or by

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turning the right and left-hand screws, where the latter are employed.

"It is preferred to make the sheath of two pieces, on account of the facility of grooving them; but it is evident the holder may be made of a greater or less number, if desired. (See Figs. 6 and 7.) It is also preferred to have the sheath embrace the molding as completely as possible, so as to bring the lower edges of the bars A B near the parting K, and thereby prevent any spreading of the tube at said slot; but if the tube is sufficiently stiff to prevent such spreading, the sheath need not surround the molding so completely. This modified form of sheath is shown in Fig. 6.

"Furthermore, the sheath may be composed of wood lined with a metallic bushing. It is evident that this form of sheath may be advantageously employed for attaching sheet-metal moldings for tubes to various articles; and I reserve the right to use it for any and every purpose that it is capable of.

"What I claim as new, and desire to secure by letters patent, is—

"1st. A sheath for applying metallic moldings, said sheath being furnished with a stop for advancing the molding, all substantially as and for the purpose specified.

"2d. The within described sheath for applying metallic moldings, said sheath being furnished with recesses *f' g'*, and a key, G, or their equivalent stops, as and for the purposes explained.

"3d. A sheath composed of two grooved bars A E B E' bolts or screws C, and washers D, whereby the sheath is rendered capable of adjustment to contain moldings of different diameters, as herein set forth.

"4th. The combination of bars A E B E' and guttered hook or shackle F *f*, for the object stated."

Infringement is alleged of claims 1, 2, and 3.

The defences insisted upon are want of invention, want of novelty, and non-infringement of claim 3.

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The substance of the invention set forth in the specification is the use of a sheath or holder or receiver, having in it a longitudinal groove or channel, in which is placed the molding that is to be applied to the upper edge of the dash-board, the sheath or holder, when pulled, drawing with it the molding over the upper edge of the dash-board, and the key or stop being fitted within the sheath or holder to prevent the molding from slipping through the groove. One useful effect of the sheath is to support the molding laterally, and prevent it from bending or buckling, or injuring the dash-board. Claim 1 covers the use of a sheath furnished with a stop, which operates to prevent the further advancing of the molding when it reaches the stop. Claim 2 covers the use of a sheath with a stop formed by means of notches or recesses, and a detachable key to be inserted in the notches. Claim 3 covers a sheath composed of two grooved bars, parallel to each other, and having bolts or screws connecting them, and washers between them, so as to render the apparatus capable of being adjusted to contain moldings of different diameters.

The Circuit Court entered a decree dismissing the bill, from which the plaintiff has appealed. The opinion of that Court, reported in 21 Fed. Rep. 319, says in regard to claims 1 and 2: "The respondents' evidence establishes that, as early as September, 1867, Joseph P. Noyes, a manufacturer of combs at Binghamton, New York, used a machine for putting moldings on combs, in which the molding was held in a sheath fitting it closely, and having an extension enough smaller to fit the comb. In this extension there was a sliding follower fitted to abut against the end of the comb. At the extreme opposite end of the larger part of the sheath there was a slot across the sheath, containing a key or stop to prevent the sliding of the molding. The follower was attached to a slide and lever, so that when a molding was laid in the larger part of the sheath and the comb in the smaller part, the comb being prevented from bending by the walls of the sheath, could be forced into the molding by the action

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of the slide and lever upon the follower, the molding being prevented from bending by the walls of the part of the sheath within which it was placed. This machine was in use more than three years before the date of the complainant's invention. That this was a comparatively small machine and used only for applying moldings to combs, is not material. *Woodbury Planing Machine Co. v. Keith*, 101 U. S. 490 [12 Am. & Eng. 404]. Nor is it material that the groove or gutter was so open in cross-section that the molding could be dropped into it. Fig. 6 of the drawings accompanying the letters patent issued to complainant shows a sheath of like shape, and is referred to in the specifications as a modified form of the sheath patented, and the claim is so broad as to cover any sheath, of any material, shape, or size, for applying moldings to any article. There is nothing more in the sheath patented to the complainant than an adaptation of the sheath used at Binghamton to the application of moldings to carriage dash-boards—an adaptation which would have occurred to a skilled mechanic without the exercise of the inventive faculty. Had the complainant's invention been first in time and patented, the Binghamton sheath would have been an infringement; and, conversely, had the Binghamton sheath been patented, the complainant's would have been an infringement. That which infringes, if later, would anticipate, if earlier." We concur in these views.

The affirmative evidence on the part of the defendant, in regard to the Noyes apparatus, consists of the testimony of Noyes and Yingling, their testimony having been taken in August, 1882. Noyes testified that he had been engaged in making combs, at Binghamton, Broome County, New York, since 1860, and had, since 1864, made combs with metallic moldings for stiffening the backs. He produced one of such combs, marked A, and one of such moldings, marked B. He further testified as follows: "Q. 6. State whether or not you have ever used any machinery for putting these moldings on

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combs. *Ans.* I have. Q. 7. Can you describe any of the machines used by you for putting moldings on combs? *Ans.* Yes. I have one machine in which the molding is held in a groove, which fits it closely, and the same groove has an extension enough smaller to fit the comb closely; and in this extension there slides a follower, which is fitted to abut against the end of the comb. At the extreme opposite end of the larger part of the groove there is a slot across the groove, containing a key or stop to prevent the molding sliding through the groove. The follower before mentioned is attached to a suitable slide and lever, so that when a molding is laid in the larger part of the groove, and the comb in the smaller part, the comb, being prevented from bending by the walls of the groove, can be forced tightly into the molding, by the action of the follower and its connected parts, the molding being, at the same time, prevented from bending by the walls of the larger part of the groove. Q. 8. Can you produce a drawing illustrating the machine above described and its operation? *Ans.* I here produce a drawing which illustrates said machine. In this drawing, Fig. 1, A represents the main body of the machine. In the part A is the groove C and its smaller extension D, in which are placed the molding and the comb, as described in my previous answer. O represents the slot in which is placed the key, marked Fig. 2. E, Fig. 1, represents the follower; B, the slide of which the follower forms a part; L, K, M, and H the lever and connecting parts by which E and B is operated. Fig. 3 shows an end view of the slide and follower. Q. 9. Into which of the grooves do you place the metallic molding? *Ans.* Into the groove C. Q. 10. And into which the comb? *Ans.* Into the groove D. Q. 11. In use, the key or stop, Fig. 2 is placed in the slot O to prevent the metallic molding sliding, is it not? *Ans.* It is. Q. 12. State whether the groove C in the sheath A effectually prevents the metallic molding from bending as it is forced over the back of the comb. *Ans.* It does. Q. 13. State how long you have used

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the above described machine for putting metallic moldings on combs in the manner described. *Ans.* Since September, 1867. Q. 14. Can you fix the date by any positive evidence besides your memory? *Ans.* I can; I have referred to the time-book of the men who made the machines, and find the machine to have been finished at the date named, and remember that it was put into immediate use. Q. 15. Has it been used ever since? *Ans.* It has been in continued use ever since without any alteration. Q. 16. Have you ever made any effort to keep its use a secret, or has it always been open to the inspection of any person who might come into your shop? *Ans.* I have made no effort to keep it secret, but the shop has always been open to visitors, and any one could see the machine who cared to look at it." The drawing so produced, marked C, shows a machine substantially like that of the plaintiff.

Yingling testified that he was, at the time of testifying, in the employ of Noyes, and, since 1868, or for about fourteen years, had used a machine like that shown by the drawing C, above referred to, for putting metallic moldings upon combs.

Noyes had stated, on cross-examination, in answer to a question as to who made the machine he had described as made in 1867, that William Knopp and his son were in his (Noyes') employ as machinists at that time, and worked some on it; that his time-book, kept at that time, which he had consulted, contained a record of the fact that Knopp and his son so worked on the machine; and that the machine was built during the first week in September, 1867. In rebuttal, the plaintiff examined as witnesses William Knopp, and three persons named Newman, Coyle and McAuley.

Knopp testified that he was employed in Noyes' comb factory from 1865 to 1869, and was familiar with the kind of machinery manufactured by them during that time, for use in their comb factory. He then proceeded: "Q. 5. In September, 1867, or at any other time, did you make machinery

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for putting metallic backs on combs? *A.* I did. *Q.* 6. Without going into detail as to the kind you did make, I will ask you whether, in September, 1867, you made or helped to make, a machine for putting moldings on the backs of combs, where the molding is held in a groove which fits it closely, and the same groove has an extension enough smaller to fit the comb closely, and in this extension there slides a 'follower,' which is fitted to abut against the end of the comb. At the extreme opposite end of the groove there is a slot across the groove, containing a key or stop, to prevent the molding from sliding through the groove. The follower is attached to a suitable slide or lever, so that, when a molding is laid in the larger part of the groove, and the comb in the smaller part, the comb is prevented from bending by the walls of the groove, and can be forced tightly into the molding by the action of the follower and of the connecting parts? *A.* I do not remember that I made anything of that kind. *Q.* 7. Did you at any other time make such a machine? *A.* I don't remember that I did. *Q.* 8. Please examine the comb I now hand you, and state whether Noyes, Bros. & Co., at that time when you worked for them, and since, manufactured a comb with metallic back similar to this one, and, if so, state how said metallic back was put on the comb? (Comb marked 'Exhibit A' shown witness and offered in evidence by solicitor for complainant.) *A.* They manufactured a comb in general appearance similar. The metallic back was put on and fastened to the comb by compression. The back was compressed in a vice to make it fit in a groove in the comb tightly. The molding was placed on the comb by hand, and then put in a vice, and the molding pressed up tightly against the comb. *Q.* 9. Do you remember working on or making machinery for compressing the molding on the comb, as above described? *A.* I do. *Q.* 10. Is the mode above described the only way Noyes, Bros. & Co. put metallic moldings on that kind of a comb? *A.* It is. *Q.* 11. You were familiar at that time with the

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Opinion of the Court.

mode employed by them for putting moldings on combs, were you? A. I was."

This testimony of Knopp is very inconclusive. He merely testifies, thirteen years after he had left Noyes' establishment, that he does not remember that he made, fifteen years before the time when he was testifying, a machine like that described in question 6 put to him. The drawing produced by Noyes was not shown to Knopp.

The testimony of Newman, Coyle, and McAuley amounts to nothing. Although they were employed in the comb factory of Noyes at the time they gave their testimony, in December, 1882, and had been employed there, Newman from 1862, Coyle for fourteen or fifteen years, and McAuley for about thirty years, neither of them was shown the comb A, nor the molding B, nor the drawing C, above mentioned, nor was a distinct question put to either of them as to the use of a machine like that described in question 6 put to the witness Knopp.

The only difference between Noyes' device and that of the plaintiff is, that in Noyes' the stop holds the molding stationary while the comb is forced into the molding by the action of the follower. But its action is substantially the same as that of the stop in the plaintiff's patent, which prevents the molding from slipping through the groove.

The case falls within the principle applied in *Pennsylvania Railroad Company v. Locomotive Truck Company*, 110 U. S. 490 [15 Am. & Eng. 148], and cases there cited.

As to the 3d claim, it is not infringed, because, in the defendant's apparatus, no washers are used for adjustment.

The decree of the Circuit Court is affirmed.

129 U. S. 541.

Notes :**1. Change in size does not involve invention :**

Phillips v. Page, 24 How. 164 [7 Am. & Eng. 97].

Dalton v. Jennings, 93 U. S. 271 [10 Am. & Eng. 459].

Notes and citations.

Glue Co. v. Upton, 97 U. S. 3 [11 Am. & Eng. 456].

Estey v. Burdett, 109 U. S. 633 [15 Am. & Eng. 32].

Pomace Holder Co. v. Ferguson, 119 U. S. 335 [16 Am. & Eng. 441].

French v. Carter, 137 U. S. 239.

Patent in suit:

No. 178,463. G. M. Peters. June 6, 1876. Tools for attaching Sheet-Metal Moldings.

OTHER SUITS ON SAME PATENT:

Peters v. Active Manufacturing Co., 1884. 28 O. G. 1102; 21 Fed. Rep. 319.

Cited:**IN SUPREME COURT IN:**

Howe Machine Co. v. Nat. Needle Co., 1889. 134 U. S. 388.

IN CIRCUIT COURTS IN:

Smith v. Pittsburg Gas Co., April, 1890. 42 Fed. Rep. 145.

Electrical Accumulator Co. v. Julien Electric Co., March, 1889, 38 Fed. Rep. 117.

Notes and citations.

IN TEXT BOOKS :

Walker on Patents, 2d ed., 1889. pp. 29, 37.

Robinson on Patents, 1890. §§ 318, 1026.

Syllabus.

GEORGE M. PETERS, APPELLANT, v. JULIUS A. HANSON ET AL, PARTNERS UNDER THE FIRM NAME OF HANSON, VAN CAMP & CO.*

129 U. S. 541-556. October Term, 1888.

[Bk. 32, L. ed. 742; 47 O. G. 945.]

Argued January 25, 28, 1889. Decided March 5, 1889.

Particular patents held wanting in invention. Application of old device to new use.

1. Claims 1, 2, and 3 of letters patent, No. 213,529, granted March 25, 1879, to George M. Peters, for an Improvement in Vehicle-Dashes, relating to the means of adjusting laterally the feet of a dash, consisting in making two holes or a slot in the rail of a dash for receiving a bolt, *held*, to cover merely application of old devices to new uses, not involving invention. (p. 421.)
2. There was no invention in providing a bearing surface (Covered by claim 4) upon the frame of the dash, to which the foot of the brace was to be attached to support the brace and dash, either by an increase in the quantity of metal or otherwise, so as to strengthen the proper part, in a proper way, for its proper duty. (p. 424.)
3. Claims 1, 2, 3 and 11 of reissue of letters patent, No. 9891, granted October 11, 1881, to George M. Peters, original 224,792, February 24, 1880, for an Improvement in Vehicle-Dash Frames, which relate to channeling or recessing the rail or bar so that the metal on each side of the channel will be thicker than the metal at the recess, *held*, to be old in the state of the art of working metals, and to be for the application of old devices to new uses not involving invention. (p. 424.)

[Cited in the opinion of the court:]

Penna. R. Co. v. Locomotive Engine Safety Truck Co. 110 U. S. 490 [15 Am. & Eng. 148.] p. 424.

* See Explanation of Notes, page III.

Argument of counsel.

Appeal from a decree of the Circuit Court of the United States for the District of Indiana, dismissing a suit for the infringement of two letters patent, granted to George M. Peters, the plaintiff, namely: letters patent, No. 213,529, granted March 25, 1879, for improvement in vehicle-dashes, and reissued letters patent, No. 9891, for improvement in vehicle-dash frames.

The facts are stated in the opinion.

Messrs. WM. HUBBELL FISHER and BENJAMIN BUTTERWORTH, for appellant:

To clearly grasp the questions involved in this case, and to correctly apply the familiar principles of patent law to them, it is necessary to sharply define the inventions here at issue. As against patent No. 213,529, which covers broadly a dash with laterally adjustable and detachable feet, it is urged by the defence that "slots are old," and, therefore, the patent is invalid.

Granted; but this appellant does not claim to have *invented the slot*, any more than he claims to have *invented the dash*.

"A patentable invention is a mental result. * * * The machine, process, or product is but its material reflex and embodiment." *Smith v. Nichols*, 21 Wall. 112 [9 Am. & Eng. 425].

The fact that dashes are old, slots are old, and detachable feet are old, *separately*, does not detract from the patentability of the appellant's new and useful *combination* of these old elements.

Imhaeuser v. Buerk, 101 U. S. 647 [12 Am. & Eng. 448]; *Parks v. Booth*, 102 U. S. 96 [12 Am. & Eng. 470]; *Fuller v. Yentzer*, 94 U. S. 305 [11 Am. & Eng. 138]; *Strong v. Noble*, 6 Blatch. 477; *Hoe v. Cottrell*, 1 Fed. Rep. 602; *Forbush v. Cook*, 2 Fish. 668; *Middletown Tool Co. v. Judd*, 3 Fish. 144; *Stimpson v. Woodman*, 10 Wall. 117; *Collins v. Coes*, 3 Fed. Rep. 226.

Argument of counsel.

Mr. Peters is a pioneer in the improvement of dashes and in the art of their manufacture. Pioneer patents should be liberally construed. *Webster Loom Co. v. Higgins*, 105 U. S. 580 [14 Am. & Eng. 70].

A new combination of known devices, producing a new and useful result, is evidence of invention, and may be the subject of a patent.

Hammerschlag v. Scamoni, 7 Fed. Rep. 585; *American Bell Telephone Co. v. Spencer*, 20 O. G. 800; *Standard Measuring Machine Co. v. Teague*, 15 Fed. Rep. 392; *Kimball v. Hess*, 15 Fed. Rep. 393; *Winans v. Denmead*, 15 How. 330 [6 Am. & Eng. 107]; *Parks v. Booth*, 102 U. S. 96 [12 Am. & Eng. 470].

The principle involved in determining the patentability of the invention covered in claims 1st, 2d, and 3d of the re-issue patent is that clearly enunciated in the leading case of *Hailes v. Van Wormer*, 20 Wall. 353 [9 Am. & Eng. 340].

A case perfectly analogous to the one at bar is found in *Guidet v. The City of Brooklyn*, 105 U. S. 550 [14 Am. & Eng. 88], in which the Court held that a pavement formed with blocks having their edges chamfered in order to afford a foothold to draft animals was patentable.

See also *Bates v. Coe*, 98 U. S. 31 [12 Am. & Eng. 150]; *Cahoon v. Ring*, 1 Cliff. 620.

Mr. ARTHUR STEM, for appellees :

Peters' invention consists in putting two holes or a slot in the rail or feet of a dash, instead of one hole. There is scarcely the "shadow of a shade of an idea" for the claim to stand on. If this Court found, in *Vinton v. Hamilton*, 104 U. S. 491 [18 Am. & Eng. 394], that a patent for a new and *very useful hole* was lacking in invention, it is not necessary to argue that the addition of two holes, or one longer hole, for precisely the same purpose, did not require inventive genius.

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Atlantic Works v. Brady, 107 U. S. 192 [14 Am. & Eng. 380]; *Pearce v. Mulford*, 102 U. S. 112 [12 Am. & Eng. 495].

In the Peters patent a special construction is used. If his claim is limited to his special construction, it may be good; that we need not discuss. The appellees use no such construction.

Even if Peters had been the first to use channeled iron for the purpose claimed, it would be simply the use of an old—very old and very common—thing for a new purpose, which is not invention. *Tucker v. Spaulding*, 13 Wall. 453 [8 Am. & Eng. 474]; *Brown v. Piper*, 91 U. S. 37 [10 Am. & Eng. 272]; *Roberts v. Ryer*, 91 U. S. 157 [10 Am. & Eng. 302]; *Mosler Safe Co. v. Mosler*, 127 U. S. 360.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought by George M. Peters, in the Circuit Court of the United States for the District of Indiana, against Julius A. Hanson and Cortland C. Van Camp, for the alleged infringement of two letters patent granted to George M. Peters, the plaintiff, namely: letters patent, No. 213,529, granted March 25, 1879, for an improvement in vehicle-dashes, on an application filed June 19, 1875, and reissued letters patent, No. 9891, for improvements in vehicle-dash frames, granted October 11, 1881, on the surrender of original letters patent, No. 224,792, granted February 24, 1880, on an application filed May 5, 1879, the reissue having been applied for June 15, 1881.

The answer sets up as to both patents want of novelty and patentability, non-infringement, and the invalidity of the reissue, because it has been expanded beyond the invention disclosed in the original patent, and contains new matter not found in that patent, and is for a different invention.

There was a replication to the answer, proofs were taken, and the Circuit Court dismissed the bill. The plaintiff has appealed from the decree. We are not furnished with any opinion given by the Circuit Court stating the ground for

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its action, but it said, in the brief for the appellant, that the ground was that the inventions were not patentable.

So much of the specification of No. 218,529, as is material, and the drawings referred to in it, are as follows:

"My invention relates, . . . secondly, to the attachment of the dash to the vehicle; and this part of my invention renders the dash capable of attachment to vehicles of different widths, so that it can be sold as an article of manufacture, for application to the vehicle by the purchaser. These features of my invention render the construction easy, expeditious and economical. Another feature of my invention consists in such a novel construction of the dash as that there shall be at the part of the frame thereof to which the laterally adjustable foot is to be attached a proper bearing surface for the support and bracing of the dash.

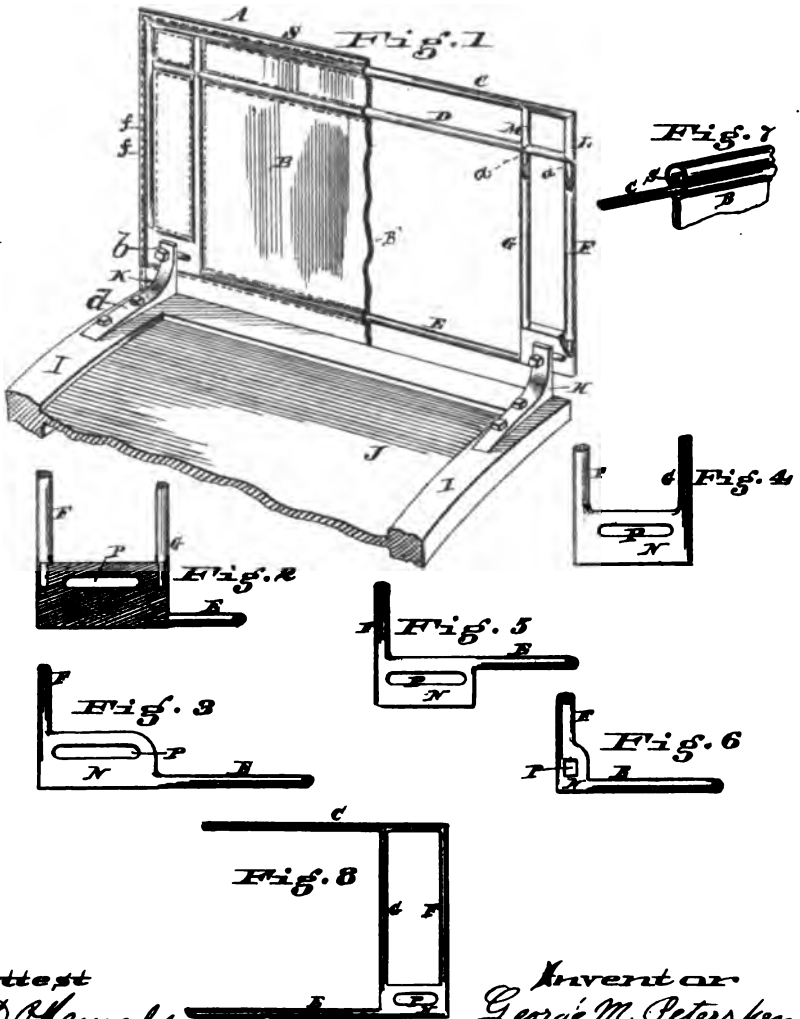
"In the accompanying drawings, which form a part of this specification, Fig. 1 is a perspective view of sufficient of a vehicle to illustrate my invention; Fig. 2, a sectional detached view; Figs. 3, 4, 5, 6, 8, detached views illustrating modifications; and Fig. 7, a detached perspective view.

"One mode of making the dash frame is shown in the drawings, in which G F are parallel uprights at each end, C D E parallel cross rods, and M L short continuations of the rods G F . . . In order to connect the frame to the vehicle, and further to permit a frame to be applied to vehicles of different sizes, I construct the frame and the foot H so that, by a lateral adjustment in relation to each other, the desired connection to bodies of different widths may be effected. The frames may be varied in construction to effect this result. Thus in Figs. 1 and 2 the frame has a wide bearing piece, N, of any desired length, with a slot to receive the fastenings of the foot or attachment H, by which the dash and the body of the vehicle are connected adjustably, so that, within the limits of the adjustment, the foot secured to the dash may find its bearings on bodies of various widths. The foot may be of any desired shape,

G. M. PETERS.
Vehicle Dash.

No. 213,529.

Patented Mar. 25, 1879.



Attest
D. Kennedy
O. A. Druel -

Inventor
George M. Peters per
Wm. Hubbell Fisher
his Atty in fact

Opinion of the Court.

being shown with two branches, *b d*, one bolted or otherwise secured to the dash and the other to the body *I* of the vehicle. By the above described means the dashes may be furnished to the trade as independent articles of manufacture as the foot may be fitted to vehicles in the process of construction or afterward, and the dash secured without altering or moving it. For the like reason the feet adapted to the vehicles and dashes may be sold separately.

"The bearing *N* for the attachment or foot may be within the frame, as shown in Figs. 1, 2, 3, 4, and 8, or it may be in an extension outside of the frame, the result being the same—*i. e.*, the frame being adapted to be secured without change to bodies of different widths. This bearing portion *N* may be secured permanently or detachably to the frame bars. Thus in Figs 1 and 2 it is provided with sockets for the reception of studs at the ends of the bars. In any case it affords a strong and rigid connection between the foot and the frame, so that the latter cannot be bent over under anything less than destructive pressure. This is especially the case when both uprights, *F* and *G*, are secured to the bearing piece *N*, whether within or without the frame proper; but when within the frame, and extending up between the uprights, it stiffens and braces the latter.

"The adjustment of the dash and foot is not necessarily limited to the mode described. For instance, it may be effected by means of a series of holes, affording a means of adjusting the foot at different points. When the foot is not required, the dash may be connected directly to the body with like advantage, as the points of connection may be varied to suit bodies of different widths.

"The feature of lateral adjustability set forth therein is applicable to dashes and feet, or equivalent laterally adjustable attachments, other than those particularly herein described."

There are eight claims in the patent, the first four of which alone are alleged to have been infringed, namely:

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"Without confining myself to any special mode of connecting the foot and dash adjustably, I claim—

"1st. The combination of a dash and laterally adjustable attachments, whereby the same may be connected to vehicles of different widths, substantially as set forth.

"2d. A dash or dash frame having slots or openings, whereby attachments may be made at different points, substantially as and for the purposes set forth.

"3d. A dash provided with bearings having slots or openings, substantially as and for the purpose specified.

"4th. A dash frame provided with bearings, arranged to strengthen the frame in those parts whereby the dash is to be connected to the laterally adjustable feet or to the vehicle."

So much of the specification of reissue No. 9891 as is material, and the drawings referred to in it, are as follows:

"One object of my invention is a novel construction of the dash frame whereby the latter is rendered light and strong, can be manufactured with little expense; and whereby the various portions of the frame are cheaply, readily and firmly secured together; and also whereby the dash is cheaply, quickly, and firmly connected to a permanent or detachable portion of the vehicle. Another object of my invention is a formation of a dash foot for connecting a dash to a vehicle whereby the foot is at once strong and light and can be cheaply manufactured.

"Referring to the drawings forming part of this specification, Fig. 1, A, B, C, and D represent a dash frame constructed in accordance with my improvements, a section through the channeled lower rail of dash, and a sectional and perspective view of my special form of bar. Fig. 2, E, and F are a perspective and sectional view of a modification of the mode of attaching the bar to the lower rail of the dash where said lower rail is channeled only on one side, and G is a perspective view showing a portion of the lower rail channeled only on one side, and a channeled foot of my in-

129 U. S. 546-547.

G. M. PETERS.
VEHICLE DASH FRAME.

No. 9,891.

Reissued Oct. 11, 1881.

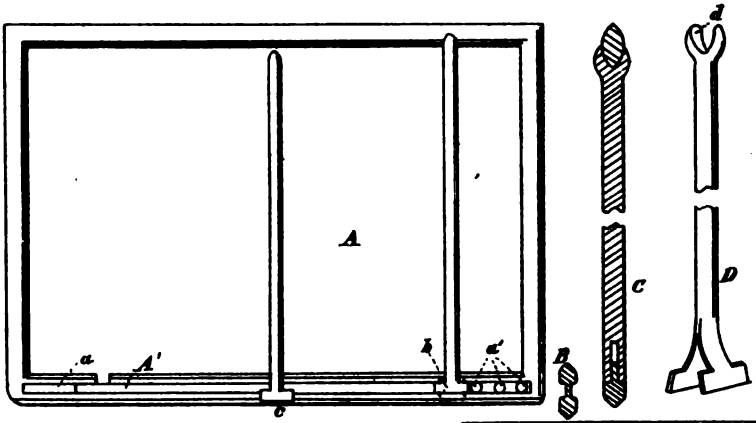


Fig. 1.

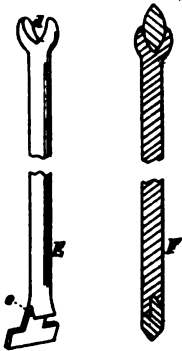


Fig. 2.

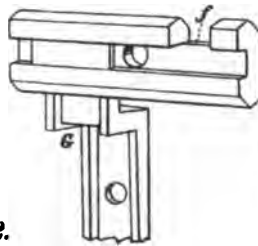


Fig. 3.

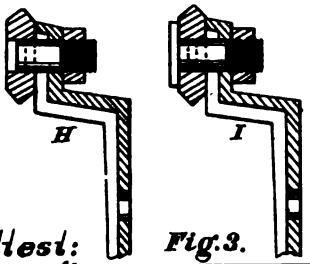
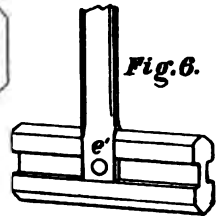


Fig. 5.

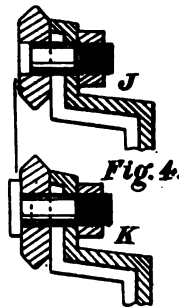


Fig. 6.

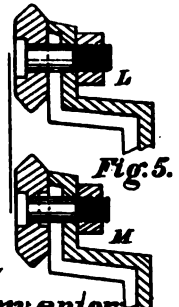


Fig. 7.

Attest:
G. M. Peters,
J. M. Smith.

Inventor:
George M. Peters,
Per J. M. Smith.



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vention attached thereto, showing manner of attaching the foot to the lower rail by a T-headed bolt. Fig. 3, H, I, Fig 4, J, K, and Fig. 5, L, M, are sectional views, showing different modes of attaching the foot to the lower rail of the dash. Fig. 6 is a perspective view showing how the extension e' of the upper bar may be riveted to the thin web or channeled portion of the lower rail. H', Fig. 1, represents the lower rail of a dash frame, channeled as shown at B. This rail is provided at either end with the slot a or the holes a' for attaching the feet to the dash frame. The lower ends of the upright bars of the frame are split and each half provided with a T head. (Shown at D, Fig. 1.) These T heads are made of the same width as the channel in the lower rail into which they fit. The two halves of this split end are separated from each other to admit the lower rail between them. The upper ends of the upright bar provided with notches d , for the reception of the upper rail of the dash frame. . .

"By constructing dash frames in the manner described much of the expense incurred in the ordinary mode of manufacture is saved. The lower rail is made broad and flat, so that the slot a or holes a' can be made therein, and leave a strong bearing for the attachment of the feet. . .

"The wide vertical flat faces of the lower rail afford a desirable bearing for the dash foot or vehicle body (as the rail can be readily perforated for bolts or rivets, and the thick edges left above and below the perforations, are first-rate bearings for said foot or body), and possess great advantages over the customary convex or oval rails, the central portion of which, being thick, renders them hard to punch, and the edges afford no flat surface for said foot or body to press against. The rail, therefore, when more or less flat on one or both sides, becomes a modification of the forms of rails shown herein and possesses some of their advantages.

"Irrespective of the comparative advantages derived from the bearings being flat over being otherwise shaped, the following, among other advantages, obtains, viz.: that

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the web allows the rail or bar to be readily and quickly perforated, the thick parts, however shaped, connecting said web serving as supports or bearings for the attachment of the foot or other portion of the vehicle to which the dash is connected. . . .

"G, Fig 2, is a perspective view of the under side of my channeled or concave foot. . . . The foot may be channeled or concaved on the opposite side to that shown and described herein, or on both sides, these forms of construction being both obvious equivalents of the one shown and described. The depth and the length of the channel or concavity in the dash rail or foot may be varied to suit the requirements of the manufacturer. Another advantage of that portion of my invention which relates to channeling or recessing the foot is that the same may be readily cast of malleable iron, the channeling obviating the injurious effects arising from the presence of shrunken corners in thick malleable iron castings. The channeling or recessing of the foot enables the latter to be made light and thin and to be better annealed."

There are thirteen claims in the reissue, but only claims 1, 2, 3 and 11 are alleged to have been infringed. Those claims are as follows:

"1st. A vehicle-dash whose lower bar is provided exteriorly with a channel or recess, the metal on either side of the channel or recess, affording a bearing for the dash foot or other portion of the vehicle to which the dash is connected for the purposes specified.

"2d. A dash whose lower rail is composed, near or at the ends, of two thick portions united by an easily perforated web, for the purposes specified.

"3d. A dash provided with a rail having vertically flat sides, one or both of said sides being exteriorly channeled, substantially as and for the purpose specified."

"11th. The foot channeled on either or both sides, substantially as and for the purposes specified."

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We will first consider claims 1, 2, 3 and 4, of No. 213,529. Claims 1, 2 and 3 relate to the means of adjusting laterally the feet of a dash. Formerly the feet which connected the dash to the body were welded to the frame of the dash and made solid with it. When a manufacturer made both the dash and the body, he welded the feet of the dash to the frame at such points as were proper for the particular body for which the dash was designed. In the course of business, it came to pass that dashes were made by other persons than the manufacturer of the carriage, who either made his carriage body, or bought it from some person other than the manufacturer of the dash. Under such a course of business, if the feet of the dash were welded to and made solid with the dash frame, they might not fit the various sizes of carriage bodies. Hence arose the idea of making the feet separate and not welding them to the dash, but attaching them thereto by a bolt and nut at the proper point. As the dash is covered with patent leather, it is not convenient to bore through its iron frame after that frame is covered and in the hands of the carriage maker. Therefore, a hole was bored in the lower rail of the frame of the dash, before it was covered, to receive the bolt by which the foot was to be attached to the frame. But, as vehicles varied in width and shape, it was necessary to place the feet sometimes nearer together, and sometimes farther apart from each other. Therefore, two holes, one on each side, in the frame of the dash, for receiving each a bolt, would not always be in the most convenient places. So it became obvious that it would be proper to make two holes or even more, on each side, so that if one hole did not come at the right point another would. Carrying out the same idea, it would be obvious that the bits of metal left laterally between the holes might be cut away, and thus a slot be made or a long hole instead of two or more round ones, admitting of the more perfect adjustment of the place of the attachment of the feet to the frame of the dash. It certainly required no invention to put two holes or a slot in

Opinion of the Court.

the rail of a dash, instead of one hole, for the purpose indicated.

The use of a bolt passing through a hole and secured by a nut, to fasten one article of iron to another, was a well-known device; and so was the use for the same purpose of a slot which admitted of the adjustability or change of position of the bolt. The specification of the patent states that "the adjustment of the dash and foot is not necessarily limited to the mode described," but that "it may be effected by means of a series of holes, affording a means of adjusting the foot at different points."

The testimony of Mr. Wood, an expert for the defendants, on the subject of the state of the art in that regard, is as follows: "Q. 21. State whether or not there is anything novel in mechanics in the use of slots for the purpose of adjustment. *Ans.* 21. No; there is nothing novel about adjustable slots, elongated slots, or holes bored extra large for that purpose. Q. 22. State, if you know, how long and in what manner and for what purposes adjustment has been accomplished by means of slots. *Ans.* 22. Well, any kind of mechanical work that has to be put together so as to be adjusted or duplicated in case of breakage—as, for instance, railroad iron. The butt ends are held together by bolts passing through elongated slots, so that the expansion and contraction of the rail will admit of self adjustment; in fact, slots were a well-known mechanical principle, which has been used from a mouse trap to a locomotive, you might say. Q. 23. In the ordinary railroad iron is or is not the T rail channeled? *Ans.* 23. Yes, sir; T channeled. Q. 24. Are or are not the slots of which you speak as provided for adjustment made in the web of the rail? *Ans.* 24. They are. Q. 25. Name some of the familiar uses in mechanics of slots for the purposes of adjustment, and describe the manner of their use. *Ans.* 25. They are so generally used in the construction of everything that is made of iron, or that iron is used in the construction of, that it would be almost impossible to pick

129 U. S. 550-551.

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out anything they were not used in for the purpose of adjustment. Q. 26. Well, can't you name some of the familiar uses? Ans. 26. Bridge work, jail work, vehicles, dashes, tops. Q. 27. Is it or is it not universally used on gauges for lathes, sewing machines, grain drills, and all classes of machinery where the feed mechanism is made adjustable? Ans. 27. Yes, sir. Q. 28. How long has it been so used? Ans. 28. Used, as I know of, for the last twenty-five years."

So, also, Mr. Brackett, another expert for the defendants, says: "Q. 11. Where it is desirable or necessary in mechanics to provide for adjustment of parts attached to one another, what is the most common form or manner of securing adjustability? Ans. 11. Where two pieces are bolted together the general form is by an oval or slotted hole. We have always used such a connection wherever it is possible, in frame structures or sliding parts, where difference in length or position is required. Q. 12. Can you name a few of the applications of this slot for the purpose of adjustment, in your own business and outside of it? Ans. 12. We use it in all bearing plates where bridges are anchored to the masonry, and where rollers are placed under one end, to allow for contraction and expansion. It is also used for roof-truss bearing plates, to allow the roof to change its position on the wall, and for the fastening of columns to continuous girders, where the change of temperature changes the position of the girders or the columns. It is also in common use in such work as slide gauges, where the adjustment of the gauge is required. It is used on an iron planer, where the difference of the length of the parts is required at different times. It is also used on the ordinary carpenter's plane, to adjust the position of the knives. It is used on a rotary wood planer for the same purpose, and, in fact, there is hardly an adjustable part of a machine where two pieces come in close contact but that it is the most common mode of adjustment, and I consider it as one of the commonest principles of mechanics, and one that has been used, that I know of, for fifteen years, and was an old

Opinion of the Court.

principle at that time. Q. 13. Would any ordinarily skilled mechanic, who had occasion to provide for the adjustment to different positions of the parts of any machine or device, be able to apply this principle without suggestion or invention? Ans. 13. He could, for the reason that this would be the first manner in which he would try to make the connection, when, if it did not work, he would look for some other manner to make connection, for the reason that this is one of the simplest and easiest methods for connecting and allowing adjustment where both parts, when two pieces are used, are made of iron."

There is no contradiction of this testimony, and in view of it the improvements covered by claims 1, 2, and 3, of No. 213,529 are merely applications of old devices to new uses, not involving invention. *Pa. R. Co. v. Locomotive Engine Safety Truck Co.* 110 U. S. 490 [15 Am. & Eng. 148], and cases there cited.

In regard to claim 4 of that patent, the invention is stated in the specification to be the putting, at the part of the frame to which the foot is to be attached, a proper bearing surface to support the brace and dash. Claim 4 states that the bearing is arranged to strengthen the frame in that part by which the dash is to be connected to the foot of the vehicle. There was no invention in providing such bearing, either by an increase in the quantity of metal or otherwise, so as to strengthen the proper part, in a proper way, for its proper duty.

As to reissue No. 9891, claims 1, 2, and 3 relate to channeling or recessing the rail or bar, so that the metal on each side of the channel or recess will be thicker than the metal at the channel or recess, the necessary effect of such arrangement being that the metal on each side of the channel or recess will be thick enough to form a bearing, and the metal in the channel or recess will be capable of being easily perforated. The channeling or recessing of the foot, covered by claim 11, involves the same idea; and the specification 129 U. S. 552-553.

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states that thereby the foot may be cast of malleable iron, and may be made light and thin, and be better annealed.

The idea of using iron with channels or recesses in it, to produce any result due to the existence of such channels or recesses, was old in the state of the art of working in metals. Mr. Wood testifies as follows: "Q. 3. State whether you are familiar with any uses to which channeled iron is applicable, if so, what uses, and the purpose and manner, and for how long you have known them? Ans. 3. Channeled iron, you might say, has been generally used in many different kinds of work and ways ever since I have been in the business. I first used it about twenty years ago in putting up hand rails and stairs. Q. 4. How long was it used for stairs, and why? How did you apply it? Ans. 4. We used it for a hand rail on the top of the rods which came from the steps, about three feet. We punched holes in the web of the iron—in the face of the iron—and riveted the vertical rods over, which left nice smooth flanges to stiffen the rail and strengthen it, and was at the same time light and answered the purpose of a solid bar of iron with much less work. Q. 5. Can you name other uses to which channeled iron has been applied? Ans. 5. Yes. I fitted up a large lot of iron for Wood, Brothers & Co., of Bridgeport, Connecticut, in 1870, for their landaus, carriages which they were making, which they used—this channel iron—for dropping the tops and for holding the tops up in a position in different ways. These irons were fitted up with poles, with slots in them, for adjustable purposes. I bought the iron from a hardware store, as it was common stock or general stock. We had no trouble to obtain different sizes for the purpose. Since then I have seen it used in a great many different ways and for a great many different purposes; for instance, fire-proof buildings. The girders and beams, the laths and roofing are all made of channeled iron. The bridges, railroad iron, gears of vehicles, jail work, vault work, safes, fire and burglar proof safes, fences, agricultural implements—in fact it is used for a great variety of

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work which I can't call to mind just now. Q. 6. For how long has it been so used? Ans. 6. Ever since I have been in the business. Q. 7. What was the shape of the channeled iron you used in 1870 for the carriages made at Bridgeport? Ans. 7. The web of the iron was about two and a half inches on the face; flanges about a half inch deep. The web was about three-sixteenths of an inch deep. Q. 8. What part of the iron was perforated with slots for adjustment purposes? Ans. 8. The web. Q. 9. Did you buy it already channeled? Ans. 9. Yes, sir. Q. 10. State whether or not you are familiar with the use of channeled iron for the purpose of feet, for any purpose. Ans. 10. Yes; the feet of desks, stoves, machinery of different kinds, vehicles. Q. 13. Is channeled iron commonly used in carriage work; and if so, for what purpose? Ans. 13. Well, channeled iron has been used for years; dash feet, dashes, tops, the bows on the tops, and for the tire on wheels. Q. 14. For how long a time have you known it to be used for these purposes? Ans. 14. Twenty years. Q. 15. What is the object in using channeled iron instead of solid bars? Ans. 15. Well, it's for the purpose of securing stiffness, lightness, and it is easy to work. It is easier to punch a hole through a light web than through a solid bar. It is economy to use it. Q. 16. Can you state any use to which channeled iron could be applied in mechanics where its use would be novel or would constitute an invention? Ans. 16. I don't know of any. Q. 17. Has or has not channeled iron been used in mechanics wherever it was desirable to combine lightness and strength? Ans. 17. Yes; we generally use it wherever we want to make that combination. Q. 18. For how long has its use in that way been common and familiar. Ans. 18. Ever since I have been in the business. Q. 19. State whether or not iron dealers keep in stock constantly various forms of channeled iron. Ans. 19. We never had any trouble to obtain channeled iron from most any of the stores. Q. 20. How many various forms is it kept in in stock? Ans. 20. Well, I could

129 U. S. 554-555.

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not say as to that. A great many forms—for bridge purposes, house building, jail work, safe work, vehicle work; it is generally kept constantly on hand. Parties who generally use large lots of it for building, bridge purposes, and other purposes, make contracts for large lots of it and have it rolled to order, and get it cheaper that way.”

Mr. Brackett testifies as follows: “Q. 4. State whether or not channeled iron is a common form for mechanical uses; and, if so, some of the uses to which it is put. *Ans.* 4. It has been commonly used in all frame structures where stiffness and lightness is desired. I have known of its use since 1862, when I first took an active part in manufacturing. We use it in bridges, roof trusses, machine frames, floor beams, joists, tramways—in fact, hardly a frame structure but what it is used more or less. Then other classes of manufactories use it in numerous places, such as fence pickets, bottom rail of fences, in stove manufacturing, furniture manufacturing, sewing machine manufacturing; and in fact I hardly think there is any class of iron structures where lightness is required but that it could be used to advantage. Q. 5. How long have you known of these uses you have referred to? *Ans.* 5. Fifteen years or more. Q. 6. Should it be desirable to combine lightness and strength in the construction of vehicles or any parts of them, would it require any invention or would it be novel to apply channeled iron for that purpose? *Ans.* 6. No, sir; I think not, as channeled iron is in almost as common use as bar iron, and hardly any framed work is made where stiffness and lightness is required but that it is used, because it is the stiffest form in which iron can be used in carrying a load between two points, either suspended or in the form of a ———, and wherever a compressible strain occurs, or cross strain, or any other strain than a purely tension strain, it is the cheapest iron to use, and it is in common use under such circumstances. Q. 7. What other advantages or advantage, if any, is obtained by the use of channeled iron, which is also

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old and familiar? *Ans.* 7. Wherever two members running either at an angle or in the same direction, its greatest convenience is in the easy manner and strength with which such attachments and connections can be made, on account of the thinness of its web, it being readily drilled or punched, requiring a great deal less labor and expense than flat bar iron; and on this account it is in general use throughout the United States, for the last fifteen to twenty years, that I know of. *Q.* 8. Can you give any instances in which channeled iron has been used as supports—that is, legs or feet—prior to 1875? Witness here asks whether counsel means channeled on one side or both. *Q.* Either. *Ans.* 8. Sewing machine legs, stove legs, school desk legs, steam heater legs; that's all I think of just now. *Q.* 9. Do you know of any use of iron for feet or supports where these supports are not made channeled as a rule? *Ans.* 9. No, sir; I do not, and as a question of economy of material, it should be done in every instance where practicable."

This testimony is uncontradicted, and in view of it the improvements covered by claims 1, 2, 8, and 11, of reissue No. 9891 amount only to applications of old devices to new uses, not involving invention.

The decree of the Circuit Court is affirmed.

129 U. S. 556-557.

Patent in suit:

No. 213,529, G. M. Peters, March 25, 1879. Vehicle-Dashes. Reissue 9891, G. M. Peters, Oct. 11, 1881 (orig. No. 224,792, Feb. 24, 1880). Vehicle-Dash Frame.

Cited :

IN SUPREME COURT IN :

Howe Machine Co. v. Nat. Needle Co. 1889. 134 U. S. 388.

Oct., 1888.]

PETERS v. HANSON.

429

Notes and citations.

IN TEXT BOOK :

Walker on Patents, 2d ed. 1889. p. 37.

Syllabus.

JOHN BÉNÉ ET AL, APPELLANTS v. EMILE
JEANTET.*

129 U. S. 632-638. October Term, 1888.

[Bk. 32, L. ed. 803; 47 O. G. 402.]

Argued January 18, 1889. Decided March 5, 1889.

Particular process patent construed. Insufficient description. R. S. Sec. 4888. Liberal construction. Inventor—first in the art. Identity of products not evidence of infringement.

1. Reissued letters patent, No. 8637, granted March 25, 1879, to John Béné, for an Improvement in the Process of Refining and Bleaching Hair, *Held*, under R. S. Sec. 4888, except as to the second claim, not full and clear enough to give one skilled in chemistry such an idea of the particular kinds and character of the chemicals, or combination of chemicals, with the relative proportions of each, as would enable him to use the invention without having to resort to experiments of his own to discover the ingredients. (p. 434.)
2. The patent limited to the second claim is to be construed as one for a process of refining hair by treating it in a bath composed of a solution of chlorine salt dissolved in an excess of muriatic acid, and the claims are to be limited accordingly. (p. 434.)
3. *Held*, that the broad construction claimed for a process patent as a pioneer and foundation invention could not extend the rights of the patentee beyond the composition of matter and processes which, as stated in the patent, embodied his real invention. Within these limits, the patent is entitled to a liberal construction, the patentee being the first discoverer of a process of refining hair. (p. 435.)
4. The fact that a particular product corresponded in the qualities sought with the product produced according to the patented process, *held*, not sufficient, in the absence of preponderating evidence, to establish that both products resulted from the same method, or equivalent method, of

* See Explanation of Notes, page III.

Argument of counsel.

preparation, and that, as a consequence, the process was infringed. (p. 435.)

5. Thus limited and construed, the patent is not infringed, and the allegation that the product cannot be produced except by treating the bath composed of chlorine salt dissolved in an excess of muriatic acid, or a solution of their (chemical) equivalents, is not established. (p. 435.)

Appeal from a decree of the Circuit Court of the United States for the Southern District of New York, dismissing a suit for infringement of reissued letters patent for an improvement in the process of refining and bleaching hair.

The facts are stated in the opinion.

Mr. SAM. TRO. SMITH, for appellants :

Béné, the pioneer inventor in the art of refining hair, is entitled to a broad claim and liberal construction.

Am. Bell Teleph. Co. v. Spencer, 8 Fed. Rep. 509 ; 126 U. S. 538 [18 Am. & Eng. 1] ; *Vogler v. Semple*, 7 Biss. 382 ; *Worswick Mfg. Co. v. Buffalo*, 20 Fed. Rep. 126 ; *Pickhardt v. Packard*, 22 Fed. Rep. 530 ; *Hammerschlag v. Scamoni*, 7 Fed. Rep. 584 ; *Rapp v. Bard*, 1 Fish. Pat. Cas. 196 ; *Standard Measuring Machine Co. v. Teague*, 15 Fed. Rep. 890 ; *Knapp v. Joubert*, 19 Blatch. 148 ; *Stow v. Chicago*, 104 U. S. 547 [13 Am. & Eng. 426] ; *Webster Loom Co. v. Higgins*, 105 U. S. 580 [14 Am. & Eng. 70].

It is enough if he describes his method with sufficient clearness and precision to enable those skilled in the matter to understand what the process is, and if he points out some practicable way of putting it in operation.

Mowry v. Whitney, 14 Wall. 620 [9 Am. & Eng. 1] ; *Klein v. Russell*, 19 Wall. 433 [9 Am. & Eng. 244] ; *Good-year Dental V. Co. v. Gardiner*, 3 Cliff. 408 ; *Union Sugar Refinery v. Matthiesson*, 3 Cliff. 639 ; *Corning v. Burden*, 15 How. 252 [6 Am. & Eng. 69].

The specification is to be used as an aid in interpreting the claim.

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Brooks v. Fiske, 15 How. 212 [6 Am. & Eng. 15]; Hogg v. Emerson, 11 How. 587 [5 Am. & Eng. 279]; Turrill v. Mich. Southern, etc. R. Co. 1 Wall. 491 [7 Am. & Eng. 202]; Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290].

The term *equivalent* when used in regard to the chemical action of such fluids as can be discovered only by experiment, means equally good.

Hyndman v. Roots, 97 U. S. 224 [12 Am. & Eng. 29]; Clough v. Gilbert & B. Mfg. Co. 106 U. S. 166 [14 Am. & Eng. 211].

Mr. WILLIAM P. S. MELVIN, for respondent:

The burden of proof is on the complainants to show an infringement.

Brooks v. Jenkins, 8 McLean, 453; Chicago & N. W. R. Co. v. Sayles, 97 U. S. 554 [12 Am. & Eng. 121].

In deciding between contradictory expert testimony, the respective reasons, ability, knowledge and fairness of the experts are to be considered.

Waterbury Brass Co. v. New York & B. Brass Co. 3 Fish. Pat. Cas. 48; Conover v. Rapp, 4 Fish. Pat. Cas. 57; Whipple v. Baldwin Mfg. Co. 4 Fish. Pat. Cas. 29.

Mr. Justice LAMAR delivered the opinion of the Court:

This is a suit in equity brought in the Circuit Court of the United States for the Southern District of New York, by John Béné and Adolph Grünberg against Emile Jeantet, praying an injunction, accounting, and damages for an alleged infringement of reissued letters patent, No. 8637, granted to Béné, March 25, 1879, on an application filed March 4, 1879, for an improvement in the process of refining and bleaching hair.

Counsel for complainant stated in the record that no claim is made in this suit for the bleaching of hair, except so far as the bleaching may result incidentally from the process of refining; and the only issue presented by the pleadings, 129 U. S. 683-684.

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therefore, relates to the question of infringement so far as the process of refining hair is concerned, there being no issue raised as to the validity of the patent in any respect.

The nature and object of the invention are set forth in the specification, as follows :

"This invention relates to the treatment of all kinds of coarse hair, which, in its natural state, has little commercial value, and is entirely unfit for toilet uses and purposes. The said treatment serves, mainly, to refine the hair or reduce the diameter of the hairs and to render them more pliable and glossy; but it also serves to partially bleach the hair or lighten its color or tint and fit it to pass through any of the ordinary dyeing processes, whereby it may be given any shade or color desired or possible. In carrying out my invention, for the purpose of producing from the coarse, harsh hair above mentioned, a soft pliable hair of fine texture, I treat the said coarse hair to a bath composed of such chemicals or chemical substances as will dissolve away a portion of the surface of each hair, and thus reduce its diameter. I find that a solution of a chlorine salt, dissolved in an excess of muriatic acid, serves my purposes as a bath for this refining treatment. I claim as my invention—

"(1). The method of refining all grades of coarse hair, which consists in subjecting it to the action of chemicals, whereby the surface of each hair is corroded or dissolved away and its diameter reduced, substantially as set forth.

"(2). The method of refining coarse hair, which consists in subjecting it to the action of a bath composed of muriatic acid, in which is dissolved a chlorine salt, substantially as set forth.

"(3). The method of refining and bleaching all kinds and grades of coarse hair, which consists, first, in bathing and manipulating the same in a chemical bath, composed of acid and a chlorine salt, and then in a bleaching bath, composed of acids and bichromate of potash, substantially as and for the purpose set forth.

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"(4). The method of refining and bleaching all kinds and grades of coarse hair, which consists: *first*, in bathing and manipulating the same in a bath composed of acid and a chlorine salt, which refines the hair; *second*, subjecting the refined hair to a bath composed of acids and bichromate of potash; and *third*, subjecting the hair thus refined and bleached to the proper shade to a fixing bath composed of warm water, solution of muriate of tin, bisulphate of soda, and muriatic acid, which sets the color, substantially as set forth.

"(5). The method of refining and treating hair, which consists in first passing it through a refining bath composed of an acid and a chlorine salt; then, if desired or necessary, through bleaching and fixing baths, as above described; and, finally treating the hair so refined to a bath composed of water and ammonia, to remove all of its impurities, substantially as specified.

"(6). As a new article of commerce and manufacture, hair of fine texture produced from any grade of coarse hair, either animal or human, by the method of refining, substantially, as herein described."

The Court below held that were it not for the latter part of this description the specification would fail to comply with the statute, and would be void for uncertainty. It therefore limited the patentee to his 2d claim, and accordingly ruled that under this specification "The patent is to be construed as one for a process of refining hair by treating it in a bath composed of a solution of chlorine salt dissolved in an excess of muriatic acid, and the claims are to be limited accordingly."

The Court further found from the evidence produced in the case that the alleged infringement, the sole issue presented by the pleadings, had not been proven, and therefore dismissed the bill without prejudice to the right of the complainants to bring an action at law if they were so advised. An appeal from this decree brings the case here.

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Under section 4888, R. S., the specification must describe the invention and the manner and process of "making, constructing, compounding, and using it in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains . . . to make, construct, compound, and use the same." Tested by this requirement, the patent in suit cannot receive the broad construction for which complainants contend. Except as applicable to the 2d claim, the specification is not full and clear enough to give one skilled in chemistry such an idea of the particular kinds and character of the chemicals, or combination of chemicals, with the relative proportions of each, as would enable him to use the invention without having to resort to experiments of his own to discover those ingredients. The broad construction claimed for this patent as a pioneer and foundation invention in the art of refining hair cannot extend the rights of the patentee beyond the compositions of matter and processes which, as stated in the patent, embody his real invention. It is true, as appears upon the pleadings, that the appellant Béné was the first discoverer of a process of refining hair, and his patent, therefore, is entitled, within the limits just indicated, to a liberal construction. If therefore it was proved that the hair dealt in by the defendant was refined by substantially the same chemical action as that set forth in the 2d claim, the fact of infringement was established, and the complainants were entitled to the decree prayed for.

Upon the trial no direct testimony was offered by plaintiffs to show that the articles dealt in by the defendant were treated or refined by the patented process. The only fact upon which the plaintiffs relied was the correspondence of the articles proved to have been sold by defendant, in respect of smoothness, luster and pliability, with the hair produced according to the patented process; which correspondence, it was contended, showed that both products resulted from the same method or equivalent method of preparation; and it

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was further insisted that the Court was bound from that fact to conclude that refined hair, like that in question, could not be produced except by treating it in a bath composed of a solution of chlorine salt dissolved in an excess of muriatic acid, or a solution of their (chemical) equivalents.

To support this contention the plaintiff introduced an expert, Nathaniel S. Keith, who states that, whilst he had never attended any lectures on the subject of chemistry, he had pursued his studies in the chemical laboratory of his father, a practicing physician and a manufacturing chemist. He had given hair special consideration during three or four years past, and had made experiments upon the processes of refining and bleaching hair with reference to this suit and another legal controversy. In his testimony he asserts, substantially, that the defendant's article cannot be produced, except by a treatment in a solution of chlorine salt and muriatic acid, or their (chemical) equivalents. In response to the question, "What other substance is there, if any, except chlorine and its compounds, which will corrode or dissolve away the surface of the hair so as to reduce the size or diameter without essentially destroying the hair?" he answers: "I have no knowledge of any others." Again: "My opinion is, that any method under which, by the action of chemicals, the surface of hair is dissolved or corroded away so as to reduce its diameter comes within the province, or falls within one or more of the claims, of the said patent."

To repel this contention the defendant called as an expert witness one Charles Marchand, who stated that he had been engaged in chemical studies for twenty-four years, having graduated at a school of arts and manufactures in Paris in 1871, from which time his business had been that of a manufacturing chemist, to which, after he came to this country in 1878, he added the occupation of analytical chemist. He testifies that in his studies and business he has had much to do with bleaching and refining human hair, and other hair; has known for many years oxidizing agencies for bleaching

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or refining hair; first saw hair reduced in diameter by the use of chemicals twelve years ago in Paris by a chemist; and that he had made a number of experiments in the treatment of hair by subjecting it to a refining process entirely different from that described in the patent; and in corroboration of his testimony he produced several samples of refined hair, which he stated he had refined by the use of different chemicals from those mentioned in the patent.

The first was treated by a chlorine gas solution in pure water, and then by a solution of peroxide of hydrogen.

The second was a solution of permanganate of potash in water with sulphuric acid and muriatic acid in proper proportions.

The third was a solution of sulphurous acid in water, and also a solution of permanganate of potash.

The fourth was treated by one of the same methods. Another specimen was treated by a concentration of peroxide of hydrogen.

To break the force of this testimony, Keith was recalled, and, upon many points, contradicted Marchand's statements. He testified that he had made experiments according to the methods described by Marchand, and found them failures, and the hair subjected to them worthless and unrefined.

The testimony of these two witnesses is conflicting. But the testimony of Marchand relates to facts declared to be within his knowledge and experience; whilst that of Keith is largely the assertion of a theory and a presentation of arguments to show that the facts testified to by Marchand cannot exist. The experiments which Keith said he had made according to Marchand's formula, and which failed to produce refined hair, were, as he admitted, his first experiments for that purpose; whilst those made by Marchand were the results of twelve years of practice, and attested themselves by the specimens produced.

Notes and citations.

We think the complainants did not make out a case of infringement. There is not a preponderance of evidence in their favor.

The decree of the Circuit Court is therefore affirmed.

129 U. S. 688.

Notes :

Act 1790, Sec. 2 ; Act 1793 ; Sec. 1 ; Act 1836, Sec. 6 ; Act 1870, Sec. 26 ; **R. S., sec. 4888.**

1. Sufficient description of a process.

Tilghman v. Proctor, 102 U. S. 707 [13 Am. & Eng. 29].

Western Electric Mfg. Co. v. Ansonia Brass Co. 114 U. S. 447 [16 Am. & Eng. 94].

Lawther v. Hamilton, 124 U. S. 1 [17 Am. & Eng. 396].

Telephone Cases, 126 U. S. 1 [18 Am. & Eng. 1].

3. Patentee first in the art entitled to a liberal construction.
Morley Sewing Machine Co. v. Lancaster, 129 U. S. 263.
(p. 263, *ante*.)
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4. Identity of products as evidence of identity of processes.
Plummer v. Sargent, 120 U. S. 442 [17 Am. & Eng. 1].
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Patent in suit :

Reissue No. 8637, J. Béné, March 25, 1879. Process of refining and bleaching hair.

Oct., 1888.] BÉNÉ v. JEANTET.

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Notes and citations.

Cited :

IN TEXT BOOKS:

Walker on Patents, 2d ed. 1889. p. 139.

[illegible]

Argument of counsel.

HARRISON H. BALLARD, APPELLANT, v. ANSON SEARLS.*

120 U. S. 50-56. October Term, 1888.

[Bk. 32, L. ed. 846; 47 O. G. 655.]

Submitted November 26, 1888. Decided March 5, 1889.

Practice.

Held, that in view of the statement presenting certain facts which had occurred since the appeal was taken, the whole basis and foundation of the present suit had disappeared by reason of the decree of this Court in a former case. *Worden v. Searls*, 121 U. S. 14 [17 Am. & Eng. 16], and the cause should be remanded to the Circuit Court with instructions to allow the appellant, defendant below, to file such supplemental bill as he may be advised, in the nature of a bill of review, or for the purpose of suspending or avoiding the decree upon the new matter arising from the reversal of the decree in the former case (p. 445.)

[Cited in the opinion of the court:]

Worden v. Searls, 121 U. S. 14 [17 Am. & Eng. 16]. p. 448.

Anson Searls v. Alva Worden and John Worden. 13 Fed. Rep. 716. p. 449.

Appeal from a decree of the Circuit Court of the United States for the Eastern District of Michigan.

On motion of the appellant for a reversal of the decree upon matters outside of the record and shown to the Court. The facts are stated in the opinion.

Mr. CHARLES J. HUNT, for appellant, in support of motion:

The record in this case has not been printed, because in the present condition of this case, we do not intend to ask the Court to sit here and hear an argument on the merits and then to decide whether certain conveyances are fraudulent and void as to creditors, when the claim of the creditor who

* See Explanation of Notes, page III.

Argument of counsel.

files the bill to set aside the conveyances *has been utterly extinguished.*

The suit to which this case is auxiliary, having been determined adversely to the complainant, his right to the relief asked for in his bill is absolutely destroyed. This is shown in the affidavit and papers attached to the motion to reverse the decree of the Court below made in this cause. These facts are not disputed by the counsel for the appellee.

The theory of this bill to set aside a conveyance as fraudulent and void as to creditors, is that there is a cloud upon the title of the lands of the debtor, and that until it is removed the land cannot be sold under the execution and a clear title given. This is for the benefit of the debtor as well as the creditor, and for the security of the purchaser.

Messmore v. Huggard, 46 Mich. 558.

This bill by the laws of Michigan must be filed after the levy of the execution, and determined before the sale of the lands. This is recognized by the complainant because he pursued this course. And necessarily the lands cannot be lawfully sold on the execution in the original cause until the determination of this auxiliary suit. In the case before the Court, this auxiliary suit having been heard and determined in the Court below, against the defendants, the defendant, Ballard, appealed to this Court, and the case is yet pending here, and no sale can lawfully be made on the execution in aid of which the suit is brought, until this Court decrees the conveyances fraudulent as to creditors.

But how can they be adjudged fraudulent and void as to creditors when there is no creditor?

Barton v. Petit & Bayard, 7 Cranch 288, answers the question.

The appellee in this cause having lost his right to the relief prayed for in his bill, cannot ask this Court to determine a question in which he has no interest, and for a judgment he cannot enforce.

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County of Dakota v. Glidden, 113 U. S. 222; Smith v. U. S. 94 U. S. 97.

This Court does not sit here to decide questions arising in cases which no longer exist, in regard to rights which it cannot enforce.

Cheong Ah Moy v. United States, 113 U. S. 216; County of San Mateo v. Southern Pacific R. R. Co. 116 U. S. 138; Lord v. Veazie, 8 How. 251.

The appellee's counsel admits the statement of facts in the motion papers to be true, but endeavors to avoid them by setting up the rights of purchasers under an execution sale. These purchasers, if there are any *bona fide* purchasers, are not parties to the appeal, and cannot be heard.

Lord v. Veazie, 8 How. 251; Harrison v. Nixon, 9 Pet. 483.

The sale under which these purchasers claim was made after the case was appealed to this Court, and was just as unlawful as if made before the case was decided in the Court below.

But the title to property sold under judicial process is not warranted by the party obtaining the judgment of the Court, Waples v. United States, 110 U. S. 630, and therefore the appellee cannot claim that this Court should take notice of their pretended rights, and determine in this suit a question in which the appellee is in no way concerned.

As the lands which were thus unlawfully sold under the execution are still in the possession of the appellant or those claiming under him, these pretended purchasers must resort to their action of ejectment to recover or obtain possession of them.

Smith v. McCann, 24 How. 398.

Therefore these purchasers would derive no benefit from a decision of this Court on the merits of the case or a decision whether the conveyances to Ballard were fraudulent and void as to creditors or not, because in the action of ejectment they must have a *valid and subsisting title* at the

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time the suit is brought. In this case the purchasers' title depends upon the decree of the Court below, in the original case of Searls v. Worden, which has been reversed, and consequently they have nothing to stand upon.

Therefore, as the foundation of their claim has failed, it makes no difference to them whether the conveyance to Ballard was fraudulent and void as to creditors or not. Consequently they have no right to ask this Court to decide upon the merits of the case, even if they were rightfully here.

If the motion heretofore made to reverse the decree of the Court below, and dismiss the bill should be granted, it would prevent several suits to remove the cloud upon the title to these lands, caused by the said unlawful and unjust sale on execution, and other tedious and costly litigation growing out of such causes.

Therefore, we submit that it would be in accordance with justice and equity to grant the motion of the appellant to reverse the decree of the Court below, and dismiss the bill with the costs to the appellant.

Mr. A. G. N. VERMILYA, for appellee, in opposition:

It is scarcely necessary to say that it is not the practice to reverse decrees on affidavits, that they are erroneous. Beyond this, however, the motion comes too late.

In order to determine it, appellant must in effect add to the record the statements in his moving papers, and under Rule 14, it is now too late. The reversal occurred March 28th, 1887; and, therefore, during that or the next term, the motion should have been made to escape the charge of laches.

Equity and good conscience are appealed to by the counsel for the motion. Appellant having committed a fraud, been detected in it, and defeated in the lower Court, comes here and asks that he be relieved from the effects thereof for the

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sake of equity. To receive equity he should have done equity.

Beyond and overshadowing the reasons above urged for denying this motion, is the fact that it would be contrary to the law as laid down years ago, and universally followed.

Wood v. Jackson, 8 Wend. 81; Manning's case, 8 Coke 192; Eyre v. Woodfire, Cro. Eliz. 278; Jackson v. Caldwell, 1 Cow. 641.

If the decree appealed from was one declaring Searls must yet be paid, then equity might be invoked to prevent that. But such is not the case. Searls has already been paid (partially at least), and Worden may have a right of action against him to recover the amount—a greater amount than even that named in the warrantee deeds to Ballard. If he had bought the property, they might have had a right of action to recover it, but none of these suppositions are facts in this case, and, therefore, the authority cited does not apply.

While the judgment of Searls v. Worden stood, no bond to supersede it having been given, it was a complete judgment for all purposes, and there was a creditor, regardless of what happened thereafter. The deeds to Ballard were void as against creditors. None can gainsay that, even now, at least not on a motion. If they desire to do so when the appeal comes on to be heard, the facts will meet them there. The transfer was fraudulent when it occurred, and nothing can wipe out that fraud. Ballard was a party to it, and if he suffers for it (though he will not), he is entitled to no sympathy. When they were given, therefore, the deeds were void, and Ballard acquired no title. He has not acquired any since. The decision of the lower Court was just when it was made. It is just still.

Subsequent reversal of the first case has not affected the character of the transactions which did take place. So the chancellor decided, and so, we think, must this Court decide, for equity and law unite to so require.

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Mr. Justice BRADLEY delivered the opinion of the Court:

The appellant has made a motion that the decree appealed from in this case, so far as it affects the said appellant, be reversed, and that the cause may be remanded to the Circuit Court with direction to dismiss the bill. This motion proposes that the decree be reversed without argument of the cause, in view of intrinsic facts which are made to appear by the records of this Court and of the Circuit Court, and by affidavits. If such a course can be properly taken in any case, we think it would be improper in the present, since the decree may be perfectly correct and free from objection on the facts of the case as they appear upon the record, and it is possible to be correct, notwithstanding the facts alleged by the appellant. These facts, however, are of such a character that the appellant may be subjected to great injustice if the cause should go to hearing on the appeal in the present condition of the record; and, as they have occurred since the appeal was taken, there seems to be no mode of affording relief to the appellant except by sending the cause back to the Circuit Court for the purpose of allowing supplementary proceedings to be had in that Court.

The facts as stated by the appellant, and not denied by the appellee, are as follows:

"On the 12th day of July, 1880, Anson Searls, the appellee in this cause, filed in the Circuit Court of the United States for the Eastern District of Michigan his bill of complaint against Alva Worden and John S. Worden, for the infringement of a patent; and such proceedings were had in the cause that on the 5th day of September, 1883, a decree was entered in said cause in said Circuit Court, whereby it was decreed that the said Alva Worden and John S. Worden infringed the patent, and should pay over to the said Anson Searls \$24,960.31.

"That upon the entry of said decree the defendants appealed the case to this Court. But the defendants, Alva Worden and John S. Worden, were unable to give the

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necessary bond to operate as a supersedeas bond upon said appeal.

“On the 17th of September, 1883, the complainant issued an execution on his decree, and placed it in the hands of the marshal of said district.

“On the 18th day of September, 1883, the marshal, under the execution, levied upon certain lots in the City of Ypsilanti, County of Washtenaw, and upon certain lands in the Town of Sumpter, County of Wayne, all in the State of Michigan, in the Eastern District thereof, the property of the said appellant, Harrison H. Ballard; and on other lands in the said City of Ypsilanti, belonging to the said Alva Worden and John S. Worden, but which were mortgaged to Mary Ann Andrews, Henry M. Curtis, Henry Van Tuyl and Charles King.

“That on the 10th day of October, 1883, the said Anson Searls, in aid of his execution against the Wordens, filed in the said Circuit Court of the United States for the Eastern District of Michigan, his bill of complaint against Harrison H. Ballard, Mary A. Andrews, Henry M. Curtis, Henry Van Tuyl, Charles King, Alva Worden and John S. Worden, to set aside as fraudulent and void, as to the creditors of the said Alva Worden and John S. Worden, the conveyances under which the said Harrison H. Ballard held the lands so levied upon; and also the mortgages given by the said Alva Worden and John S. Worden on the said lands belonging to them to the said Mary Ann Andrews, Henry M. Curtis, Henry Van Tuyl and Charles King. That such proceedings were had in said last mentioned cause, that the cause was brought to a final hearing, and a decree entered on the 24th day of November, A. D. 1884, in which it was decreed that the mortgages given by the said defendants, Alva Worden and John S. Worden, to the said defendants, Mary A. Andrews, Henry M. Curtis, Henry Van Tuyl and Charles King, were good and valid liens upon the lands mentioned therein, and that the several conveyances to Harrison H. Ballard,

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were fraudulent and void as against the creditors of the said Alva Worden and John S. Worden.

"Thereupon, the said defendant, Harrison H. Ballard, prayed an appeal to the Supreme Court of the United States to reverse the said decree, as far as it related to him.

"That the said appeal was allowed and the amount of the appeal bond was fixed at the sum of \$8500. That the said bond was duly executed and approved by one of the judges of the said Circuit Court, and filed in the office of the Clerk of said Circuit Court. That on the 8th day of October, 1885, the Clerk of said Circuit Court of the United States for the Eastern District of Michigan, transmitted the transcript of the record in the case of Anson Searls v. Harrison H. Ballard *et al.* to the Clerk of the Supreme Court of the United States, and that the said transcript was filed in the office of the Clerk of this Court on the 13th day of October, 1885, and now stands on the docket for the October Term, 1888, as No. 144.

"That since the appeal in this case, the appeal in the original case of Alva Worden and John S. Worden, Appellants, v. Anson Searls, has been heard in this Court, and a decree entered thereon on the 27th of March, 1887, wherein and whereby it was, among other things, ordered, adjudged and decreed that the final decree of the said Circuit Court in this cause be, and the same is hereby, reversed with costs, and that the same be remanded to the said Circuit Court with a direction to dismiss the bill with costs.

"That on the 8th day of August, 1887, this Court issued its mandate in the said case of Alva Worden *et al.*, Appellants, v. Anson Searls to the Said Circuit Court, in which, among other things, the said Circuit Court of the United States for the Eastern District of Michigan was directed to dismiss the bill with costs.

"That said mandate was filed in the said Circuit Court on the third day of October, 1887.

"That on the third day of September, 1888, a decree was en-

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tered in pursuance of said mandate in the case of Anson Searls v. Alva Worden and John S. Worden (the original case) dismissing the bill of complaint, with costs."

It is apparent from this statement that the whole basis and foundation of the present suit has disappeared by the decree rendered in the former case of Worden v. Searls, reported in 121 U. S. 14 [17 Am. & Eng. 16]. Surely there ought to be some mode of relieving a party in such a case. The appellee is endeavoring to collect the amount recovered by a decree which has been reversed, and in a case in which his bill has been dismissed on the merits. The object of the present suit is to aid the execution of that former decree by having declared void certain conveyances of property by the defendants, which the appellee has caused to be levied on for the satisfaction of the decree. If the former decree had been reversed before the taking of the present appeal, the appellant could have instituted supplementary proceedings in the Circuit Court for obtaining the benefit of that reversal. The conveyances sought to be set aside were good as between the parties and only void as to creditors; and as the appellee, by the reversal of his decree, ceased to be a creditor, his bill to have the conveyances set aside had no longer any ground to stand on. A supplemental proceeding of some kind, therefore, would have been the right of the defendant, the present appellant. But as the case had been removed to this Court by appeal before that decree of reversal was rendered, such a proceeding was out of his power. Nor could it be taken in this Court, where the case was pending on appeal, for this Court cannot entertain proceedings that require the exercise of original jurisdiction, except in the few cases pointed out in the Constitution.

The only course which can be properly pursued is to remand the cause to the Circuit Court, with instructions to allow the appellant to file a supplemental bill, in the nature of a bill of review, or a bill to suspend or avoid the operation of the decree, according to the mode pointed out by

120 U. S. 54-55.

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Lord Redesdale in his work on Equity Pleading. He says, on page [86]: "But if a case were to arise in which the new matter discovered could not be evidence of any matter in issue in the original cause, and yet clearly demonstrated error in the decree, it should seem that it might be used as ground for a bill of review, if relief could not otherwise be obtained." And on page [95] he says: "5. The operation of a decree signed and enrolled has been suspended in special circumstances, or avoided by matter subsequent to the decree, upon a new bill for that purpose;" and he gives an instance occurring in the time of Charles II. These views are adopted by Mr. Justice Story in his work on Equity Pleading. (See § 415 and note, § 428.) We do not decide what precise form such a proceeding should take; the appellant will be advised by his counsel in this regard.

The appellee, in opposition to the appellant's motion, has produced the certificates of the Marshal of the United States for the Eastern District of Michigan, showing that, on the 10th day of December, 1884, he sold the property in dispute, or some part thereof, to certain persons, under the execution issued upon the decree in the case of *Anson Searls v. Alva Worden and John S. Worden* [13 Fed. Rep. 716] (which was reversed by this Court, as before stated), and that the purchasers would be entitled to a deed of said lands, and the sales would become absolute at the expiration of fifteen months, unless previously redeemed as prescribed by the statute of Michigan.

It is possible that these sales may complicate the inquiry to be made by the Court upon the supplemental proceedings of the appellant; but we do not see that they can preclude such proceedings. It is not shown that the purchasers have advanced any money on the faith of the purchases; and it is possible that the appellant can show that they were made for the benefit of the appellee; in either case, the sales would be liable to be set aside on the reversal of the decree. Should the Circuit Court deem it proper to require that the pur-

Notes and citations.

chasers be made parties to the supplemental proceedings, the facts of the case could be fully elicited, and right could be done without prejudice to any of the parties.

Our decision is, that the cause be remanded to the Circuit Court, with instructions to allow the appellant, defendant below, to file such supplemental bill as he may be advised, in the nature of a bill of review, or for the purpose of suspending or avoiding the decree, upon the new matter arising from the reversal of the decree in the former case of *Anson Searls v. Alva Worden and John S. Worden*, and that such proceedings be had thereon as justice and equity may require.

And it is so ordered.

130 U. S. 56.

Cited :**IN TEXT BOOKS :**

Walker on Patents, 2d ed. 1889, p. 475.

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Statement of the case.

THE COLLINS COMPANY, APPELLANT, v. LORING
COES, ET AL.*

130 U. S. 56-69. October Term, 1889.

[Bk. 32, L. ed. 858; 47 O. G. 523.]

Affirming 21 Fed. Rep. 38.

Argued January 10, 11, 1889. Decided March 5, 1889.

Particular patent wanting in novelty.

1. Reissued letters patent, No. 5294, to Lucius Jordan and Leander E. Smith, February 25, 1873, for an Improvement in Wrenches; original, No. 50,364, October 10, 1865, construed in view of disclaimer, which admits the want of novelty of the second claim, and *held*, to be anticipated by the patent, No. 2054 to Loring Coes, April 16, 1841, and by the wrenches known as the "Hewitt" wrenches, manufactured in 1851-4, and to be void for want of patentable novelty. (p. 468.)
2. A qualified disclaimer *held*, an admission of want of novelty. (p. 470.)

[Cited in the opinion of the court:]

Hailes v. Albany Stove Company, 123 U. S. 582-587 [17 Am. & Eng. 336]. (p. 469.)

Appeal from a decree of the Circuit Court of the United States for the District of Massachusetts, dismissing a suit for infringement of reissued letters patent, No. 5294, dated February 25, 1873, for an improvement in wrenches.

See S. C. below, 21 Fed. Rep. 38.

Statement by Mr. Chief Justice FULLER :

The Collins Company of Connecticut, a corporation located at Collinsville, in the County of Hartford and State of Connecticut, brought this suit in equity in the Circuit Court of

* See Explanation of Notes, page III.

L. JORDAN & L. E. SMITH.
Wrenches.

The Collins Company, Assignee.

No. 5,294.

Reissued Feb. 25, 1873.

Fig. 1.

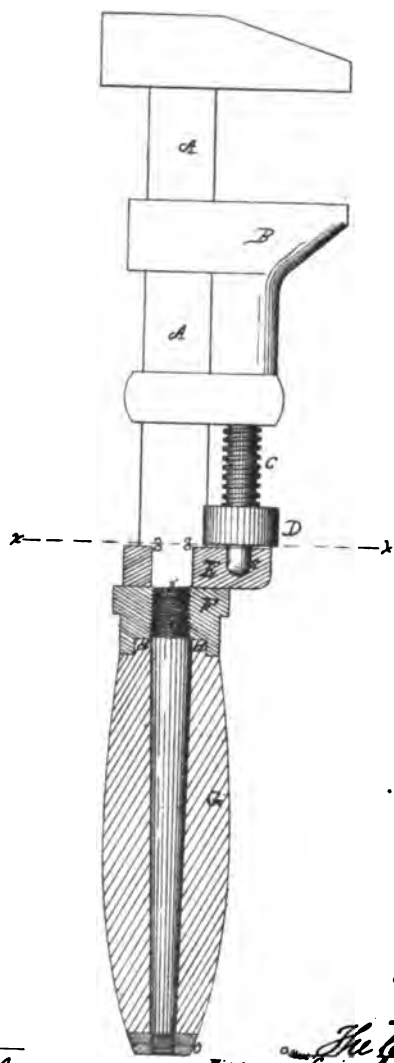
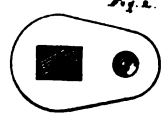


Fig. 2.

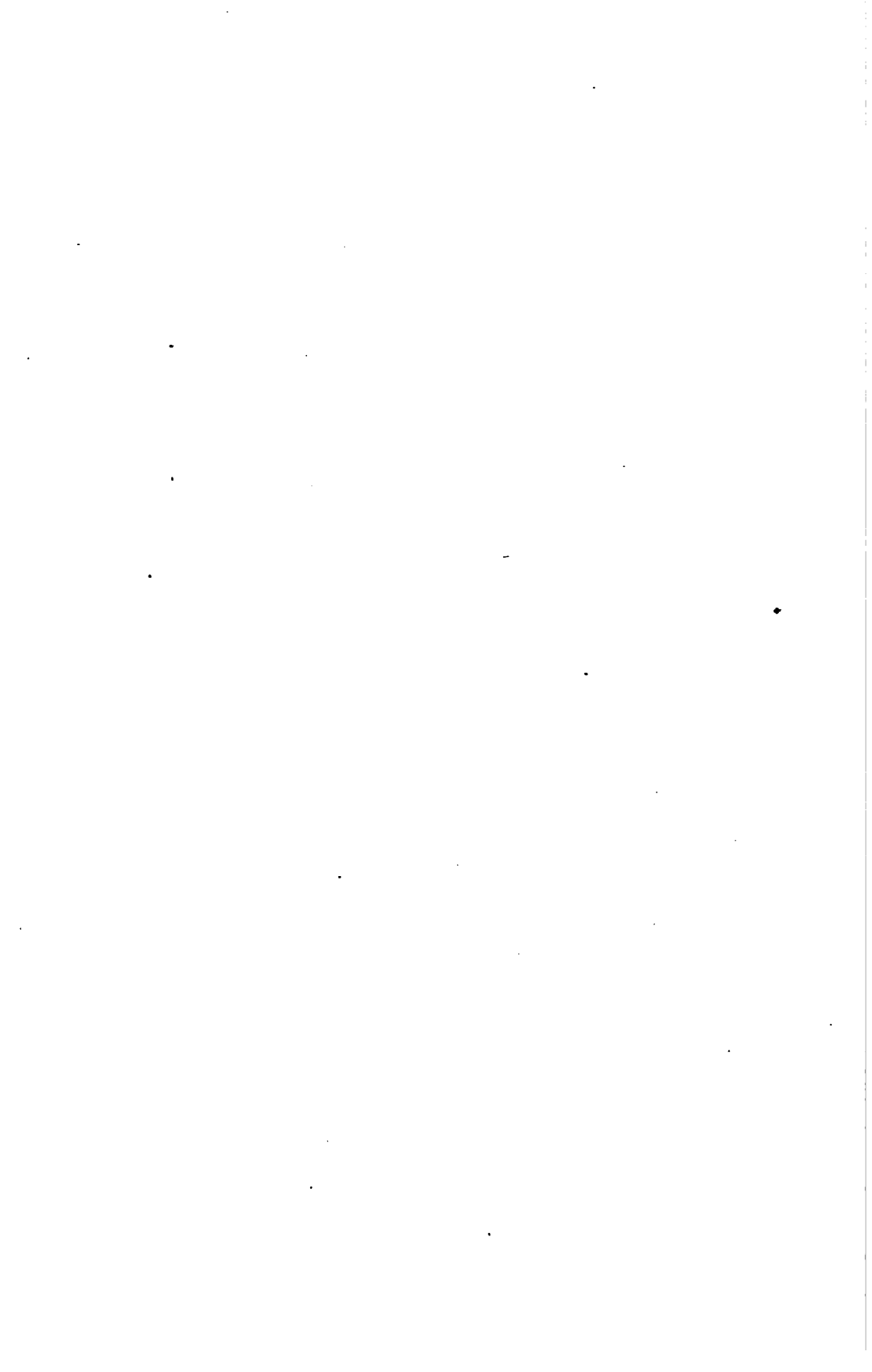


Witnesses.

Geo. H. H. H.
T. C. Steele.

Assignee
Inventors

The Collins Company
Assignees of L. Jordan & L. E. Smith
by W. A. C. Sammons
Solicitor at Law
Ct. 1873



Statement of the case.

the United States for the District of Massachusetts against Loring Coes and Melvin O. Whittier, partners in business at Worcester, in Worcester County, Massachusetts, in the name and style of Loring Coes & Company, for the alleged infringement of reissued letters patent, No. 5294, dated February 25, 1873, for an improvement in wrenches, issued to the Collins Company as assignee of Lucius Jordan and Leander E. Smith, said reissued letters patent being based upon original letters patent dated October 10, 1865, No. 50,364. There had also been a reissue February 22, 1870.

The specification and accompanying drawings of the reissue, No. 5294, are as follows :

"The object of this invention is the prevention of end thrust or back pressure on the wooden handles of wrenches, which has heretofore availed to quickly destroy such wooden handles, and, in destroying the handles, has left the working parts of the wrench which depended upon the handles for support without such support, so as to injure and effectually impair their working qualities and efficiency ; and is accomplished by so connecting the step which so forms a bearing for the lower end of the screw-rod with the bar which forms the main part of the wrench that the back pressure upon the step by the screw-rod will be directly transmitted to the wrench-bar at the place of connection therewith, and will not be transmitted to and mainly put upon the wooden handle.

"Fig. 1 is a side view of the whole wrench, the part below the dotted line *xx* being in section. Fig. 2 is a top or plan view of the step which forms a bearing for the lower end of the screw-rod.

"The letter A indicates the wrench-bar, flat side *d* down to the under side of the step E, and from thence downward cylindrical or of other convenient shape, so as to take upon it the wooden handle G. B is the movable jaw. The letter C indicates the screw-rod, and D the rosette by which it is turned. The letter E indicates the step, in which is the bear-

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ing *s* for the lower end of the screw-rod, and also the hole *a* to admit the bar *A*, and fitting up against the shoulder *b*. On the bar *A*, just below the step *E*, is cut the screw thread *i*, on which screws the nut *F*, forming a projection from the wrench-bar, on which rests the step *E*, and thus transmits the back pressure put upon the step directly to the wrench-bar at the place of connection therewith, and thus relieves the wooden handle therefrom; the connection of the step with the bar being made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts.

"The nut not only supports the step, but can be made to rigidly fasten the step to the bar by screwing it firmly up against the step, so as to gripe it between itself and the shoulder *b*, thus giving the nut, so to speak, a double office, viz.: that of supporting the step, and also, that of fastening it rigidly to the bar. The nut is interiorly recessed at *d*, for the purpose of forming a ferrule for the top of the wooden handle.

"Heretofore the part designed to perform the office of the step *E* has rested directly on the wooden handle, which was secured upon the bar by a light nut, *o*, at the lower extremity of the bar, which is the present method of fastening on the handle.

"It is known that, previous to this invention, steps have been forged or otherwise produced solid with the bar, and this became as much a part of it as the solid head at extremity of bar, and also by riveting to reach similar result; but such method, by making a permanent fastening, renders it impossible, or a work of great difficulty, to displace the step in order to remove the sliding jaw for repairs. It will be observed that, while Jordan and Smith's method of fastening is as firm as the permanent fastenings last above referred to, their step can readily be removed and again put in place at pleasure.

"It is believed that Smith and Jordan were the first to

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secure easy divisibility of step and bar, together with a fixed or stationary step when in position, and at the same time supporting the step when in position immediately by the bar, and not immediately through the handle, as the manner had been.

"As a matter of definition, the Jordan and Smith method of fastening and supporting the step when in position is denominated 'removable' hereinafter in contradistinction from a connection and support made by forging or otherwise producing the step in one solid piece with the bar, and, therefore, a part of it, or by riveting it thereto, or the like.

" Claims.

"1st. The step, combined with the wrench-bar and supported by the nut F, or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts.

"2d. The nut F, combined with the wrench-bar, and interiorly recessed at *d*, for the purpose set forth.

"3d. The nut F, combined with the threaded bar, and performing the office of supporting the step, and also of rigidly fastening it to the bar, for the purpose set forth."

April 16, 1841, a patent issued to Loring Coes for what has since always been known as the Coes wrench, and this was reissued June 26, 1849. The specification and drawings of the reissue are as follows :

"Fig. 1 is an elevation of my improved wrench, and Fig. 2 an elevation of a wrench previously known but not of my invention.

"In my improved wrench the inner jaw slides on the bar of the permanent jaw and handle, and is moved by a screw at the side of the bar, operated by a head or rosette, which always remains in the same position relatively to the handle, whereby the movable jaw can be adjusted with the thumb

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of the hand, which grasps and holds the handle. The principle or character of my invention, and that which distinguishes it from all other things before known, consists in moving the adjustable jaw by means of a screw placed at the side of and parallel with the bar of the permanent jaw and handle, when the required rotation for sliding the jaw is given by a rosette or head, or the equivalent thereof, which retains the same position relatively to the handle; and my invention also consists in retaining the required position of the rosette or its equivalent, by which the required motion is given to the sliding jaw, by having its periphery to work in a notch or recess in the bar of the permanent jaw and handle, or *vice versa*.

"In the accompanying drawings (A) represents a quadrangular bar of metal with a permanent or hammer jaw (C) at one end, the other end being reduced in size to pass through a handle (L), secured to it by a nut (M). Between the ferule of the handle and the shoulder of the bar an iron plate (I) is gripped by the securing of the handle onto the bar, and this plate extends out sufficiently beyond the bar to receive the journal (K) (see dotted lines) of a screw (F), which is placed parallel with and by the side of the bar. This screw is tapped into a tubular piece (D) that projects from the back face of the adjustable jaw (B), which is fitted to slide on the bar from or toward the permanent jaw (C), the rear end of the tubular projection (D) being provided with and sustained by a bridle (E), which embraces and slides on the bar. At the rear end the screw is provided with a head or rosette (G), the periphery of which turns in a notch or recess (H) made in the edge of the bar, as shown by dotted lines, by which the position of the said rosette is retained relatively to the handle. The hand, represented by dotted lines, indicates the manner in which my improved wrench is operated. The handle is grasped by the fingers, and the rosette is operated by the thumb of the same hand, so that, without any change in the position of the hand, the movable jaw can be moved

L. Coes,
Wrench.

N^o 139.

Reissued June 26, 1849.

Fig. 1

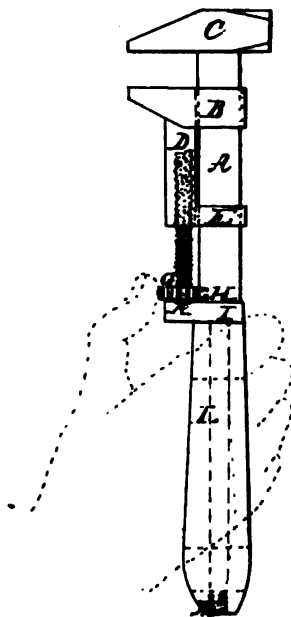


Fig. 2



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toward or from the permanent jaw, to set the wrench to any size required, with one hand.

"By means of my improvement the bar can be made of any desired form best adapted to the sliding jaw and to strength. The rosette or its equivalent employed for operating the jaw is always retained in the same position relatively to the hand that grips the handle. At the same time, the use of two bearings for the screw is avoided.

"The advantages of my improved wrench over other methods of construction will be seen by comparison with the wrench represented by Fig. 2 of the accompanying drawings.

"What I claim as my invention and desire to secure by letters patent is moving the sliding jaw by a screw, combined with and placed by the side of and parallel with the bar of the permanent jaw and handle, substantially as described, when the required rotation for sliding the jaw is given by the head or rosette (or its equivalent), which retains the same position relatively to the handle during the operation, substantially as described. And I also claim moving the sliding jaw by a screw, combined with and placed by the side of and parallel with the bar of the permanent jaw and handle, substantially as described, in combination with the rosette or its equivalent, retained in its position relatively to the hand in the manner described."

It appears from the evidence that during the years 1851 to 1854, E. F. Dixie was manufacturing, to the extent of from two hundred to four hundred wrenches per week of various sizes, a wrench known as the Hewitt wrench, which wrench contained a recessed nut screwed upon the wrench-bar just above the wooden handle, for the purpose of relieving the handle from back pressure put upon the step, and of serving as a ferrule for the upper end of the wooden handle. It had an adjusting screw-sleeve instead of the adjusting screw-rod of the Coes wrench, but was otherwise substantially the same.

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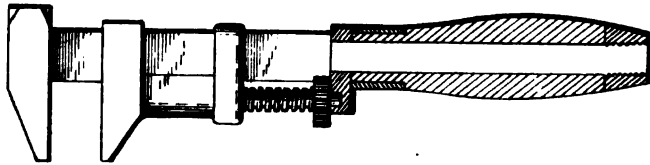
The following diagrams give the various wrenches referred to on the argument :

On the 9th of August, 1880, the Collins Company filed a disclaimer in the Patent Office, stating : " Further, that said The Collins Company has reason to believe that, through inadvertence and mistake, the second clause of claim made in said last-mentioned reissued letters patent, in the following words, to wit: ' 2. The nut F, combined with the wrench-bar, and interiorly recessed at *d*, for the purpose set forth,' is too broad, including that of which said Jordan and Smith were not the first inventors. Said The Collins Company, therefore, hereby enters its disclaimer to ' the nut F, combined with the wrench-bar, and interiorly recessed at *d*, for the purpose set forth,' except when said recessed nut and wrench-bar are in combination with the handle (G), the step or step-plate (E), the screw-rod (C), and the movable jaw (B) of the wrench, substantially as is shown and described in said last-mentioned reissued letters patent," being the reissue in question.

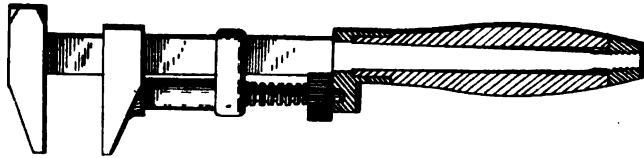
The defendants contend that the patent in suit did not disclose a patentable invention, in view of the prior state of the art ; that the reissue described and claimed a different invention from that for which the original patent was granted ; that the reissue was taken too long after the date of the original patent to be permitted upon equitable grounds ; and that there was no infringement.

The Circuit Court originally granted an interlocutory decree in favor of the plaintiff in accordance with the opinion of Judge LOWELL, reported in 5 Ban. & Ard. 548, and 3 Fed. Rep. 225. But a rehearing was afterward moved for and granted, the interlocutory decree vacated, and the bill dismissed, for the reasons stated in the opinion of Mr. Justice GRAY, presiding in the circuit, in a similar suit by the plaintiff against other defendants, which opinion was as follows :

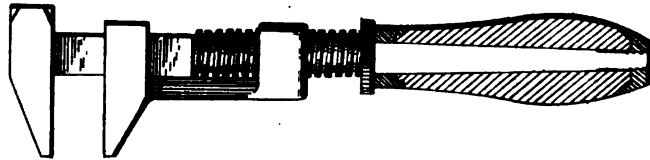
" This is a bill in equity for the infringement of the first claim in the specification of the second reissue to the com-



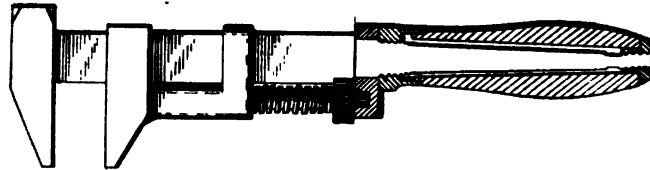
*Coes Wrench
Patented
April 16, 1861.*



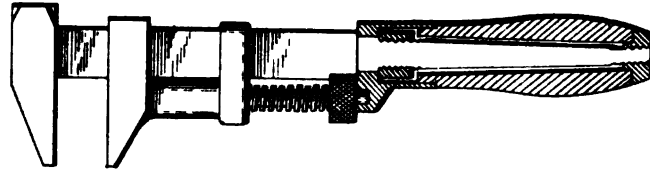
*Coes Wrench
Original Manu-
facture, before and
since 1850.*



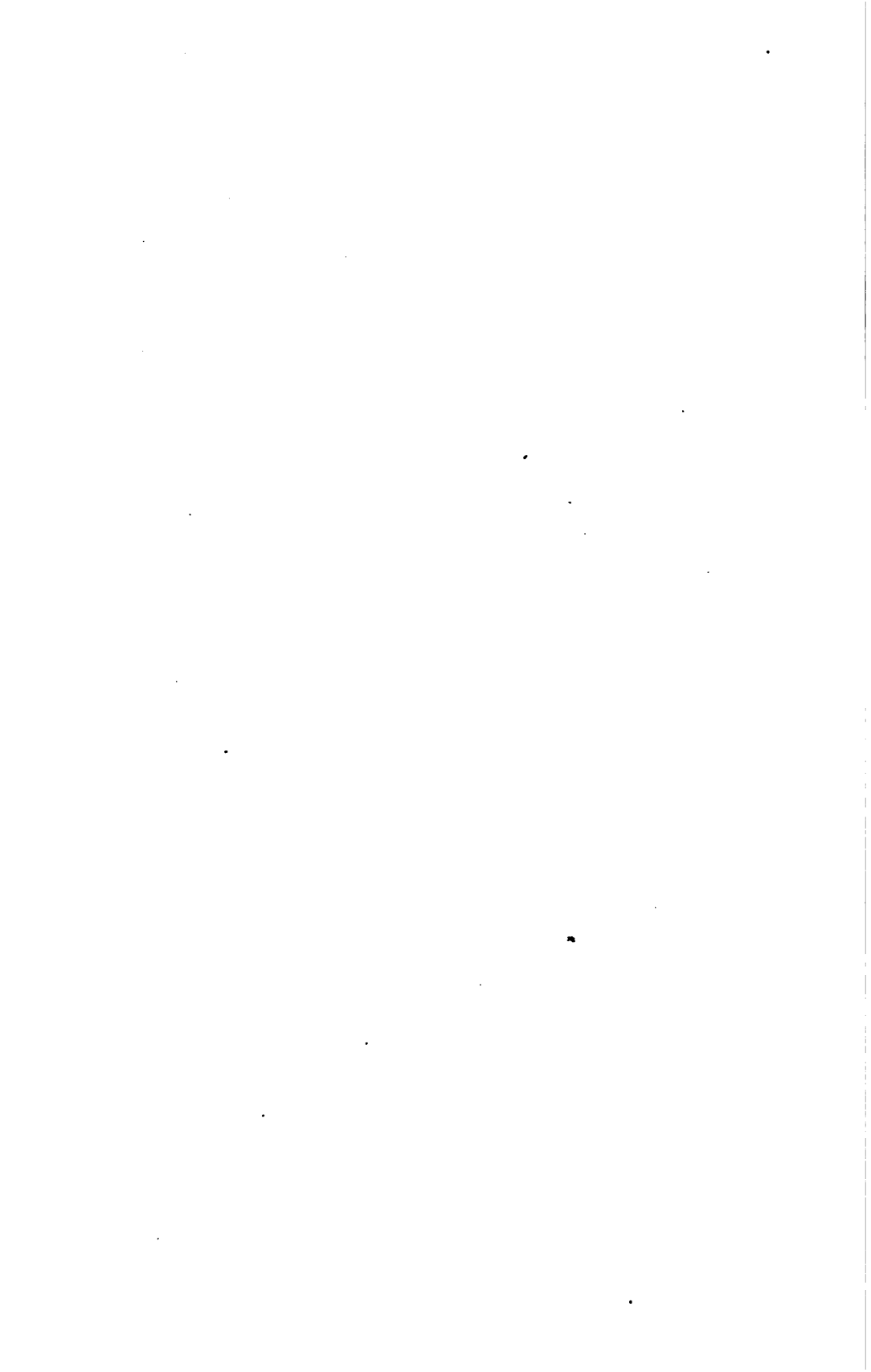
*Dixie Wrench
Manufactured
1851-1865.*



*Complainant's Wrench,
entirely French.*



*Defendant's
Manufacture
Complained of.*



Statement of the case.

plainant, dated February 25, 1873, of letters patent originally issued to Lucius Jordan and Leander E. Smith, on October 10, 1865, for an improvement in wrenches.

"The wrench, as described, both in the original patent and in the reissue, has the following parts: The wrench-bar A, the upper part of which is of the usual shape, and has attached to it the movable jaw B, and the lower part of which is of convenient form to receive upon it the wooden handle; a screw-rod, C, parallel to the main bar; a rosette, D, at the lower end of the screw-rod, by means of which the movable jaw is worked; a ferrule or step, E, having a hole through it for the admission of the bar, and a recess in its upper face as a bearing for the lower end of the screw-rod; a nut, F, screwed on a thread in the bar, under the step, and having a recess in its under face to receive the top of the wooden handle, G; and the wooden handle secured at its lower end to the main bar by a nut in the usual way.

"Both the original patent and the reissue state that the object of the invention is to make the strain come upon the nut F instead of coming upon the wooden handle. The original patent states that the nut F is, and the reissue states that it may be, screwed up firmly against the step E. The reissue affirms and repeats that the distinguishing characteristic of the invention is that the step can be readily removed and replaced at pleasure. There is no hint of such a distinction in the original patent.

"The first claim of the original patent is for 'The step E, made substantially as described, and for the purpose set forth.' The corresponding claim in the reissue is for 'The step, combined with the wrench-bar, and supported by the nut F, or its equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts.'

"The parallel screw-rod, with a rosette thereon to work the movable jaw, and resting upon a ferrule or step, had been introduced in the original Coes wrench, patented in 1841;

Argument of counsel.

and, long before the issue of the patent to Jordan & Smith in 1865, large numbers of the Hewitt or Dixie wrench had been made and sold, in which there was no separate screw-rod, and the screw that worked the movable jaw revolved on the main bar, but that screw rested on a ferrule or step, which was secured sometimes by driving it on under heavy pressure, and sometimes by a nut screwed under it on the bar.

"The application to the bar of the Coes wrench, for the purpose of securing and supporting the step, and resisting the strain, of a nut already in use for the same purpose on the Hewitt or Dixie wrench, lacks the novelty of invention requisite to support a patent within the decisions of the Supreme Court at the last term, which have in effect overruled the earlier decisions of this Court in the suit of this complainant against Loring Coes and others, reported in 5 Ban. & Ard. 548. *Pa. R. Co. v. Locomotive Engine Safety Truck Co.* 110 U. S. 490 [15 Am. & Eng. 148]; *Bussey v. Excelsior Mfg. Co.* 110 U. S. 131 [15 Am. & Eng. 77]; *Double-Pointed Tack Co. v. Two Rivers Mfg. Co.* 109 U. S. 117 [14 Am. & Eng. 571]; *Phillips v. Detroit*, 111 U. S. 604 [15 Am. & Eng. 269].

"The complainant's patent being void for want of novelty, it becomes unnecessary to consider the other defences.

"Bill dismissed with costs."

Mr. WM. EDGAR SIMONDS, for appellant:

The reissue claim was valid.

Gold & Stock Teleg. Co. v. Commercial Teleg. Co. 23 Fed. Rep. 340.

The reissue claims were not unduly expanded.

Saladee v. Racine Wagon & C. Co. 27 Pat. Off. Gaz. 1138; *Globe Nail Co. v. U. S. Horse Nail Co.* 19 Fed. Rep. 819; *Hicks v. Otto*, 19 Fed. Rep. 749; *McArthur v. Brooklyn Railway Supply Co.* 19 Fed. Rep. 263; *Dunbar v. White*, 15 Fed. Rep. 748; *Starrett v. Athol Machine Co.* 14 Fed. Rep. 910; *Holt v. Keeler*, 22 Pat. Off. Gaz. 1291; *Brainard v.*

Argument of counsel.

Cramme, 12 Fed. Rep. 621 ; Eames v. Andrews, 122 U. S. 40 [17 Am. & Eng. 98].

The patent is *prima facie* evidence that the patentee was the original and first inventor.

Crouch v. Speer, 6 Pat. Off. Gaz. 188 ; Hawes v. Antisdel, 8 Pat. Off. Gaz. 685 ; Wood v. Cleveland Rolling Mill Co. 4 Fish. Pat. Cas. 559-60 ; Parham v. Am. B. O. & Sewing Machine Co. 4 Fish. Pat. Cas. 482 ; Miller v. Smith, 5 Fed. Rep. 364 ; Woven Wire Mattress Co. v. Wire Web Bed Co. 8 Fed. Rep. 89-90.

It required more than mere mechanical skill to produce what is shown in this patent.

Brown Mfg. Co. v. Deere, 21 Fed. Rep. 713 ; Wooster v. Blake, 8 Fed. Rep. 433 ; Crandall v. Watters, 9 Fed. Rep. 663-64 ; Dederick v. Cassell, 9 Fed. Rep. 309.

If a new combination and arrangement of known elements produce a new and beneficial result never attained before, it is invention.

Webster Loom Co. v. Higgins, 21 Pat. Off. Gaz. 2031 [14 Am. & Eng. 70].

Mr. GEORGE L. ROBERTS, for appellees :

The device lacks the novelty of invention requisite to support a patent.

Pa. R. Co. v. Locomotive Engine Safety Truck Co. 110 U. S. 490 [15 Am. & Eng. 148] ; Bussey v. Excelsior Mfg. Co. 110 U. S. 131 [15 Am. & Eng. 77] ; Double-Pointed Tack Co. v. Two Rivers Mfg. Co. 109 U. S. 117 [14 Am. & Eng. 571] ; Phillips v. Detroit, 111 U. S. 604 [15 Am. & Eng. 269] ; Morris v. McMillin, 112 U. S. 244, 248, 249 [15 Am. & Eng. 310] ; Stephenson v. Brooklyn Crosstown R. Co. 114 U. S. 149, 154, 156, 158 [16 Am. & Eng. 63] ; Pomace Holder Co. v. Ferguson, 119 U. S. 335, 338 [16 Am. & Eng. 441] ; Thatcher Heating Co. v. Burtis, 121 U. S. 286, 294, 295 [17 Am. & Eng. 37] ; Hendy v. Golden State & Miners Iron Works, 127 U. S. 370, 375 [18 Am. & Eng. 588].

Opinion of the Court.

Mr. Chief Justice FULLER delivered the opinion of the Court:

We concur with the Circuit Court in its disposition of this case and the grounds upon which it rested its decision.

The wrench-bar, the fixed jaw upon its upper end, the movable jaw sliding upon the wrench-bar, the screw-rod parallel with the wrench-bar, the rosette upon the lower end of the screw-rod, the step-plate surrounding the wrench-bar, the wooden handle secured by the nut at its extreme lower end, are all described in the patent to Coes; and the nut screwed upon the wrench-bar just below the step-plate, and provided with a recess for the purpose of forming a ferrule for the top of the wooden handle, which is not in the Coes patent, but is in complainant's reissue, had already been in use in the Hewitt or Dixie wrench for the same purposes. The disclaimer conceded that "the nut F, combined with the wrench-bar, and interiorly recessed at *d*, for the purpose set forth" was an old device; but it is claimed that the device is new when the recessed nut and wrench-bar are in combination with the handle, the step, the screw-rod, and the movable jaw. The handle, the step, the screw-rod, and the jaw are all to be found in the Coes and Dixie wrenches, and the recessed nut of the Dixie wrench constituted, by the shoulder which it made at its upper end, a step upon which the screw rested, and served every purpose designated in the reissued patent in suit as intended to be secured by such recessed nut. This in itself justified the finding that "The application to the bar of the Coes wrench, for the purpose of securing and supporting the step and resisting the strain, of a nut already in use, for the same purpose, on the Hewitt or Dixie wrench, lacks the novelty of invention requisite to support a patent." This conclusion is not affected by the fact that in complainant's wrench the screw-rod of the Coes wrench is availed of instead of the screw-sleeve of the Dixie wrench.

Complainant's first claim is as follows: "1. The step, combined with the wrench-bar and supported by the nut F, or its
120 U. S. 68-67.

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equivalent, at the place where the step is connected with the bar, in such manner that the step can be removed from the bar without cutting or abrasion of parts." The specification says: "On the bar A, just below the step E, is cut the screw-thread *i*, on which screws the nut F, forming a projection from the wrench-bar, on which rests the step E, and thus transmits the back pressure put upon the step directly to the wrench-bar at the place of connection therewith, and thus relieves the wooden handle therefrom, the connection of the step with the bar being made in such manner that the step may be removed or taken off the bar without any cutting or abrasion of parts."

The elements of this combination are the support of the step by the nut F, the transmission of back pressure directly to the wrench-bar through that nut, and the removability of the step without cutting or abrasion of parts. Now the Dixie wrench contained the nut F, screwed on the wrench-bar, and transmitting the back pressure directly to it, and removable without cutting or abrasion, by being simply unscrewed.

The second claim is: "The nut F, combined with the wrench-bar, and interiorly recessed at *d*, for the purpose set forth." This, as so stated, was disclaimed, except when said recessed nut and wrench-bar are in combination with the handle, the step, the screw-rod, and the movable jaw.

It was said in *Hailes v. Albany Stove Company*, 123 U. S. 582, 587 [17 Am. & Eng. 336], the Court speaking through Mr. Justice BRADLEY: "A disclaimer is usually and properly employed for the surrender of a separate claim in a patent, or some other distinct and separable matter, which can be excised without mutilating or changing what is left standing. Perhaps it may be used to limit a claim to a particular class of objects, or even to change the form of a claim which is too broad in its terms; but certainly it cannot be used to change the character of the invention. And if it requires an amended specification or supplemental description to make an altered claim intelligible or relevant, whilst it may pos-

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sibly present a case for a surrender and reissue, it is clearly not adapted to a disclaimer."

The complainant's qualified disclaimer is an admission that the second claim of the patent is void for want of novelty, which is true, even if the qualification were effectual, since, as we have seen, the screw-rod and movable jaw of the patent have no different effect from the screw-sleeve and movable jaw of the prior Dixie wrench, upon the other parts of the combination.

The other claim is: "3. The nut F, combined with the threaded bar, and performing the office of supporting the step, and also of rigidly fastening it to the bar, for the purpose set forth." The specification says: "The nut not only supports the step, but can be made to rigidly fasten the step to the bar by screwing it firmly up against the step, so as to gripe it between itself and the shoulder *b*, thus giving the nut, so to speak, a double office, viz.: that of supporting the step, and, also, that of fastening it rigidly to the bar. The nut is interiorly recessed at *d*, for the purpose of forming a ferrule for the top of the wooden handle." The purpose of supporting the step by the nut F, and fastening the step rigidly to the wrench-bar by means of that nut, is the relief of the wooden handle from the strain of back pressure. In the Dixie wrench the step and nut were made of one and the same piece of metal, thereby fully attaining the object of holding the step-plate rigidly fastened in position. In the Coes wrench the step was rigidly fastened to the bar by being griped between a shoulder above it and upon the bar and the handle below it, which was backed up by the nut screwed upon the lower extremity of the bar. Dispensing with a washer between a nut and that upon which it acts, makes no change in the office of the nut. The action of the nut M of the Coes wrench in gripping the step-plate is the same as that of the nut F of the patent. This third claim is also void for want of novelty.

The decree of the Circuit Court is affirmed.

Oct., 1888.]

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Notes and citations.

Patent in suit :

Reissue No. 5294. Jordan & Smith. February 25, 1873.

Wrenches. Original No. 50,364. October 10, 1865.

OTHER SUITS ON SAME PATENT :

Collins Co. v. Coes, 1880. 5 Ban. & Ard. 548; 3 Fed. Rep. 225.

Collins Co. v. Coes, 1881. 20 O. G. 1084; 8 Fed Rep. 517.

Collins Co. v. Coes, 1884. 28 O. G. 1010; 21 Fed. Rep. 38.

Cited :

IN CIRCUIT COURTS IN :

Smith v. Thomson, May, 1889. 38 Fed. Rep. 604.

IN TEXT BOOKS :

Robinson on Patents, 1890. §§ 259, 1134, 1135.

Syllabus.

TALLMADGE E. BROWN, APPELLANT, v. THE
DISTRICT OF COLUMBIA.*

120 U. S. 87-102. October Term, 1888.

[Bk. 32, L. ed. 863; 47 O. G. 398.]

Affirming *Ibid*, 3 Mackey, 502.

Argued January 8, 9, 1889. Decided March 11, 1889.

Particular patents construed. Substitution of material not involving invention. Right of patentee to advantages resulting from his invention. Absence of invention. Mechanical skill.

1. The claims in letters patent, No. 101,590, granted to Turner Cowing, April 5, 1870, a New Mode of constructing Wood Pavement for Streets, for a wooden pavement "composed of blocks, each side having a single plain surface and one or more of the sides being inclined, and the blocks being so laid on their larger ends as to form wedge-shaped grooves or spaces to receive concrete or other suitable filling," construed in view of the state of the art, and *held*, that Cowing's wooden blocks of the same shape as the stone blocks of Lindsay's English patent, No. 5185, June 14, 1825, were nothing more than the substitution of one material for another without involving a new mode of construction, or developing anything substantially new in the resulting pavement. (p. 497.)
2. Where a certain advantage was said to arise in the use of patentee's invention, of which nothing was said in his specification *held*, that if it was an advantage directly following from the alleged invention as described, he was entitled to the benefit of it, whether he perceived it or not. (p. 498.)
3. Letters patent, No. 94,062, Ballard & Waddell, August 24, 1869, for an Improvement in Street Pavements, claiming as an article of manufacture a wedge-shaped block having the grain running parallel to one and oblique to the other of its beveled sides, and also a pavement of the same; construed

* See Explanation of Notes, page III.

Statement of the case.

and *held*, that there was nothing materially different in the practical result of having the grain run in this way ; and that the form and manner of laying the blocks were both old. (p. 499.)

4. Letters patent, No. 94,063, Ballard & Waddell, August 24, 1869, Method of cutting Blocks for Street Pavements, construed to be for the cutting of the blocks in a particular way and so as to avoid waste, and *held*, to require simple mechanical skill, without involving invention. (p. 501.)

[Cited in the opinion of the court :]

Hotchkiss v. Greenwood, 11 How. 248 [5 Am. & Eng. 240]. p. 498.

Hicks v. Kelsey, 18 Wall. 670 [9 Am. & Eng. 150]. p. 498.

Smith v. Goodyear Dental Vulcanite Co. 93 U. S. 486 [11 Am. & Eng. 1]. p. 498.

Phillips v. Detroit, 111 U. S. 604 [15 Am. & Eng. 269]. p. 498.

Stow v. Chicago, 104 U. S. 547, 550, [13 Am. & Eng. 426]. p. 498.

Appeal from a decree of the Supreme Court of the District of Columbia, in a suit for the infringement of patent No. 101,590, issued to Turner Cowing, April 5, 1870, for a new mode of constructing wood pavements in streets, and patent No. 94,062, issued to William W. Ballard and Buren B. Waddell, August 24, 1869, for improvements in street pavements, and patent No. 94,063, issued to said Ballard and Waddell, August 24, 1869, for an improved mode of cutting blocks for street pavements ; by which it was decreed that no case of actual infringement was made out as to No. 94,063, and that Nos. 94,062 and 101,590, were void for want of patentable novelty.

Statement by Mr. Chief Justice FULLER :

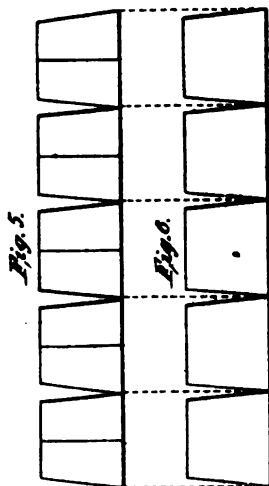
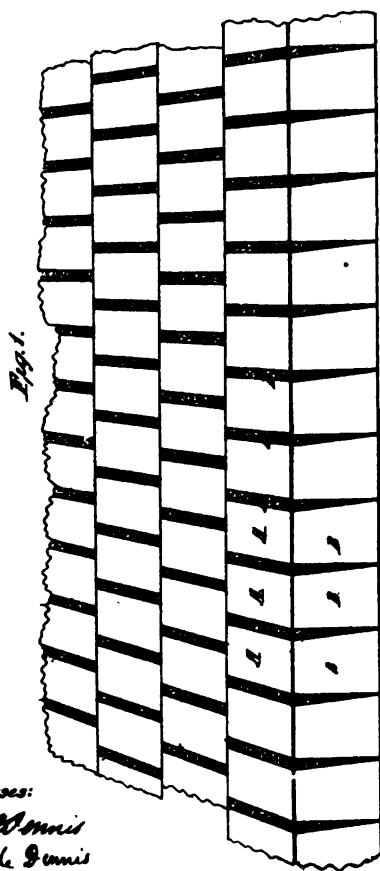
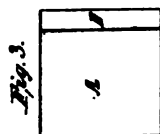
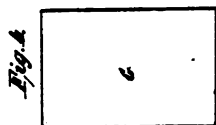
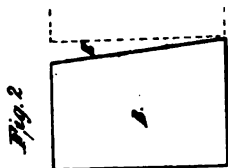
Tallmadge E. Brown filed his bill in the Supreme Court of the District of Columbia, on the 14th day of April, 1880, counting upon three patents alleged to have been infringed by the respondent, namely : Patent No. 101,590, issued to Turner Cowing, April 5, 1870, for " a new mode of constructing wood pavements for streets." The specification and claim are as follows :

T. Cowing

Wood Pavement.

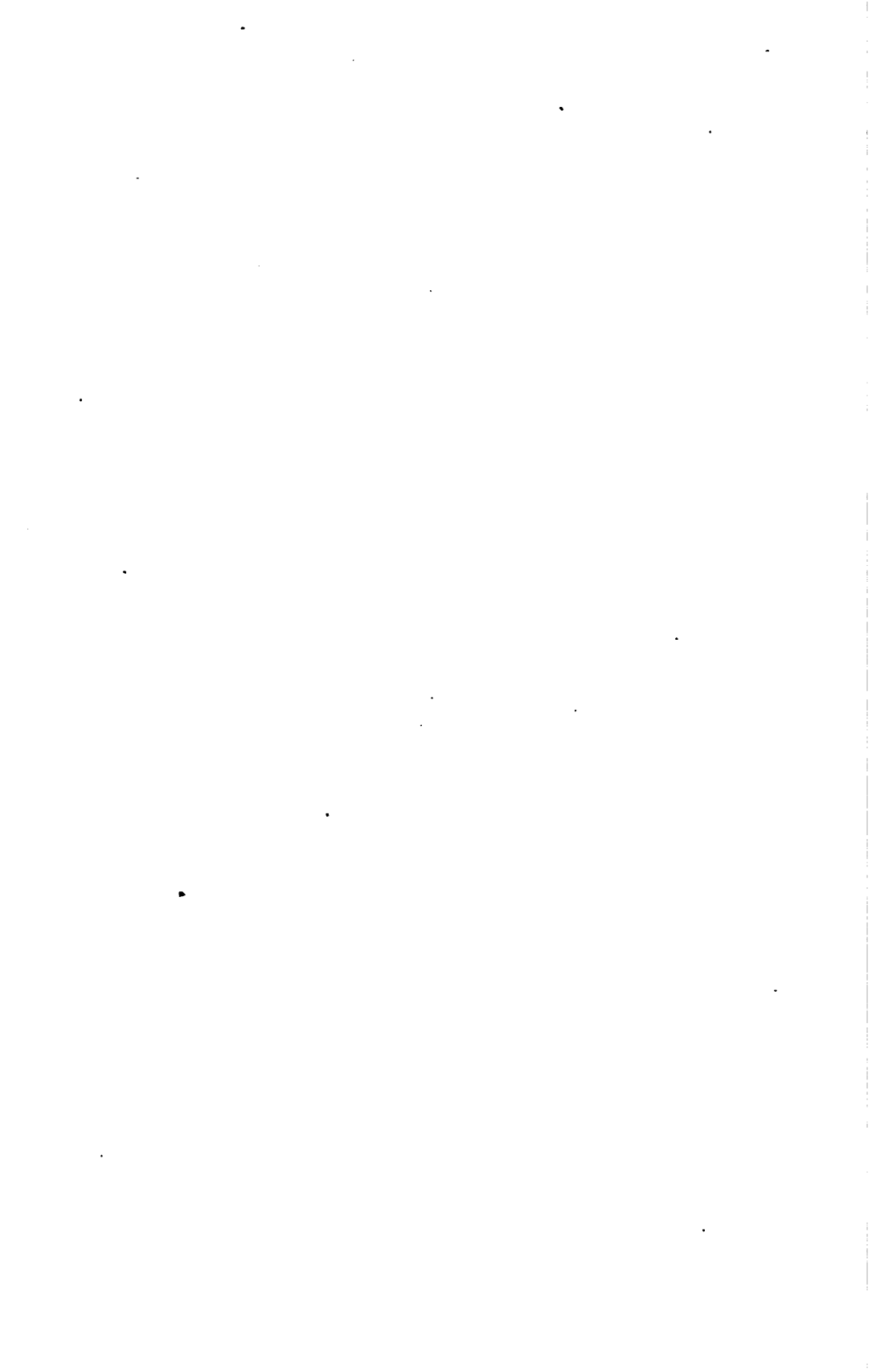
Nº 91,690.

Patented Apr. 5, 1870.



Witnesses:
H. H. Davis
Wm. K. Dennis

Inventor:
Turner Cowing
By his Atty, J. Dennis Jr.



Statement of the case.

"The nature of my invention consists in providing and arranging blocks of a peculiar shape in manner to form wedge-shaped crevices for the reception of earth or gravel, and wherein such earth or gravel will be retained to act as a key to bind and confine the blocks in their place.

"Figure 1 represents a section of road paved with the blocks, complete. Fig. 2 represents the straight side of a block, with the inclined side at E. Fig. 3 represents the top of a block, and also the section of the base D. Fig. 4 represents the straight side of a block, which is set next to the inclined side of the adjoining block.

"In Fig. 1 letter A represents the top of the block, B the side, and E the crevice and gravel. The blocks should, of course, be placed so that the gravel spaces may extend lengthwise across the direction of the street or road, so that, besides wedging and holding the blocks securely, they may furnish a better foothold for animals drawing heavy loads.

"In the drawing, the front edge of the pavement, as shown, represents the side next the curb, or a section parallel to the curb.

"It is obvious that the wedge-shaped crevices may also be formed by setting the above described blocks so that two vertical sides and two inclined sides come together alternately, as shown in Fig. 5; and it is equally obvious that two blocks having their vertical sides together may be replaced by a single block having two inclined faces, as shown in Fig. 6, without any material change of plan, and with a considerable saving of labor and expense in the construction.

"To construct my pavement, prepare the roadway by grading it to the proper form and ramming solid; then set the blocks as shown in Fig. 1, confining them permanently between the curbs of walks; then fill and ram the crevices with earth and gravel.

"I do not claim a wood pavement composed of wedge-shaped blocks, when the blocks are laid alternately on larger

Statement of the case.

and smaller ends, so as to form a continuous surface of wood, but what I do claim, and desire to secure by letters patent of the United States, is:

"A wood pavement composed of blocks, each side having a single plain surface, and one or more of the sides being inclined, and the blocks being so laid on their larger ends as to form wedge-shaped grooves or spaces to receive concrete or other suitable filling, substantially as set forth."

Patent No. 94,062, issued to William W. Ballard and Buren B. Waddell, August 24, 1869, for "improvements in street pavements," of which the following are the specification and claims:

"Figure 1 is a perspective view of a section of pavement embracing our improvement. Fig. 2 is a perspective view of a piece of timber from which the block is cut, and showing the cuts made by the saw; and Fig. 3 is a perspective view of two of the blocks laid alongside of each other.

"To more clearly illustrate our invention, we will proceed to describe the construction, etc., referring by letters to the drawings.

"A represents the bed of the street, which is made slightly arched, the ends of the arch resting against the curbs B B. Strips C are laid upon said arch at right angles to the curb and at convenient distances apart. Upon said strips is laid a flooring, composed of boards of any desired dimensions, and the blocks are then laid on this flooring in rows, and so as to break joints. These blocks are of a wedge shape, and are so laid as that their bases shall touch, forming a continuous arch across the street, and leaving V-shaped spaces between the rows. These spaces are filled with concrete or its equivalent, and the whole surface tarred over, if thought necessary. The gutters are formed by inclining the bed slightly upward at the curb and splitting the ends of the blocks off to fit against the curb and the last one of the street blocks.

"The peculiarity of the blocks used in this pavement is

Ballard & Waddell.
Wood Pavement.
N^o 94,002. Patented Aug. 24, 1869.

Fig. 1.

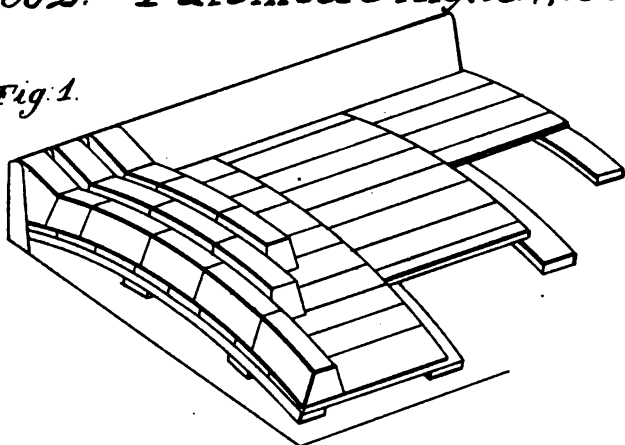


Fig. 3.

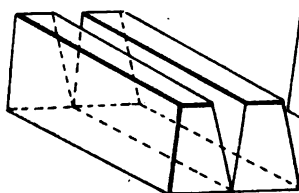


Fig. 2.

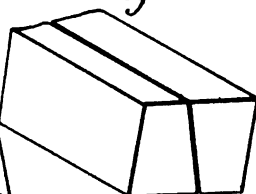
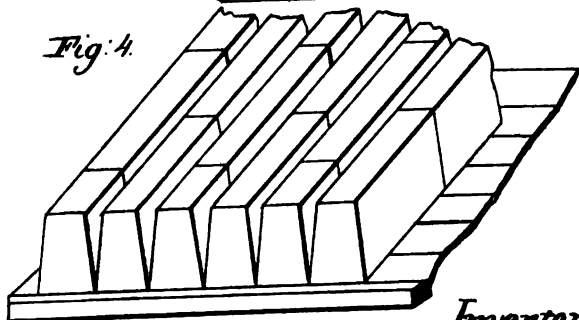


Fig. 4.



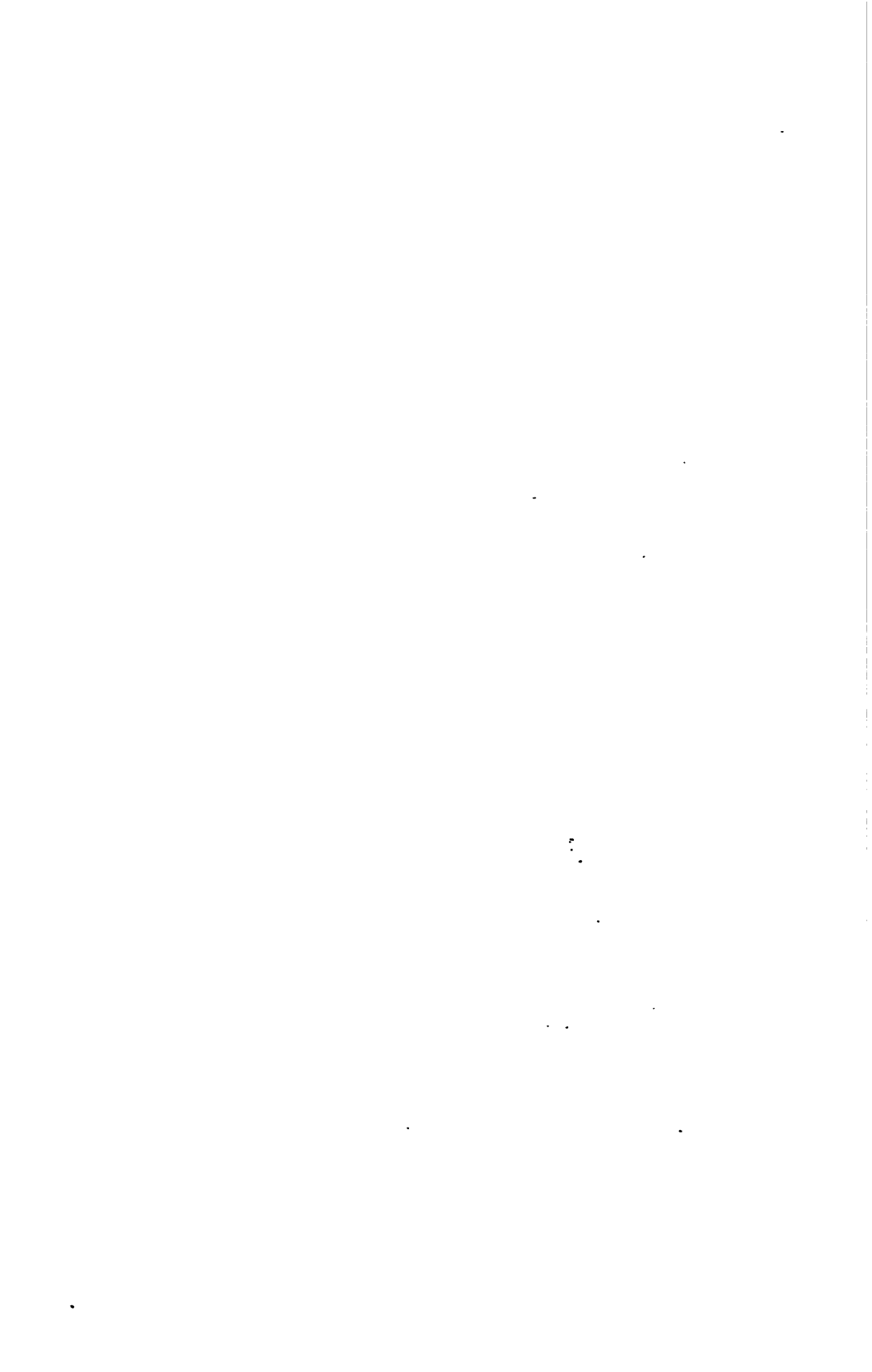
Witnesses

Samuel Smith
Henry J. Smith

Inventor

Ballard & Waddell

by *Alonzo A. S. Waddell*
Attorneys



Statement of the case.

that they are wedge-shaped and having both sides at acute angles with the base and the grain running parallel with one and oblique to the other of these sides.

"A more perfect description of these blocks and the manner of producing them is given in another pending application, now on file in the United States Patent Office, entitled 'A method of cutting blocks for street pavements,' prepared and executed by us on the 29th day of September, 1868.

"The advantages of blocks having both sides beveled, with the grain running, as described, over the ordinary wedge-shaped block, are first and most important—that only one corner of the base is at all likely to become broken off by transportation and rough handling; whereas, in the ordinary block, both corners are liable to such accidents. Another advantage of the relation of grain to the sides of the block is that the V-shaped spaces have one perfectly smooth side, and consequently less opportunity is afforded to the gravel in the filling to jam and leave the lower portion of the space loosely or entirely unfilled. This is believed to be a difficulty in pavements constructed of wedge-shaped blocks having the grain running vertically, and thereby exposing the fiber on both the beveled sides of the blocks.

"A pavement constructed of our improved blocks can be laid at a less cost than any other wedge-shaped pavement, owing to the cheapness of the blocks.

"It has always been desirable to build pavements of wedge-shaped blocks, as they make a stronger and more durable pavement and are more easily laid, but so far it has been impracticable, owing to the expense of producing the blocks, caused by the waste in material and extra sawing.

"Having described the construction and advantage of our improved pavement, what we claim as new and desire to secure by letters patent is—

"1st. As an article of manufacture, wedge-shaped blocks having the grain running parallel to one and oblique to the

Statement of the case.

other of their beveled sides, and produced substantially in the manner referred to.

"2d. A wooden street pavement constructed, substantially as hereinbefore described, of wedge-shaped blocks with the grain running, and produced in the manner and for the purpose set forth."

Patent No. 94,063, issued to said Ballard and Waddell, August 24, 1869, for "an improved mode of cutting blocks for street pavement," of which the specification and claim are as follows:

"Figure 1 represents the lumber as the blocks are being cut off in order to give the ends of the blocks the proper angle or bevel.

"Fig. 2 represents the blocks after being cut off as above described before splitting. Fig. 3 represents the blocks in the act of being split on a saw table, showing the rest or guide necessary to cut them in the proper direction. Fig. 4 represents the blocks finished and placed in the pavement.

"Our invention consists in a novel method of cutting and splitting blocks for wood pavement in such a manner that two cuts, or rather one cut and one splitting, will produce two finished blocks with level top and bottom and two sides beveled, one being with the grain and the other slightly oblique to the grain, without more waste of timber than is occasioned by the saws.

"We take a piece of lumber four and a half feet long, twelve inches wide, and seven inches thick. This is placed under the saws, as shown in Fig. 1, in an inclined position, so that the first cut will produce blocks with two sides inclined, the top and bottom level or in parallel planes. The first cut produces nine blocks, such as shown in Fig. 2, out of a piece of lumber, as described above. Each such block will then be twelve inches long, six inches high with the fiber, and seven inches wide across the fiber. These blocks are then split, as indicated in dotted lines, Fig. 2, slightly oblique to the fiber, as seen also in Fig. 3, being brought

W. W. Ballard & B. B. Waddell,

Wood Pavements.

Patented Aug. 24, 1869.

Nº 94,063.

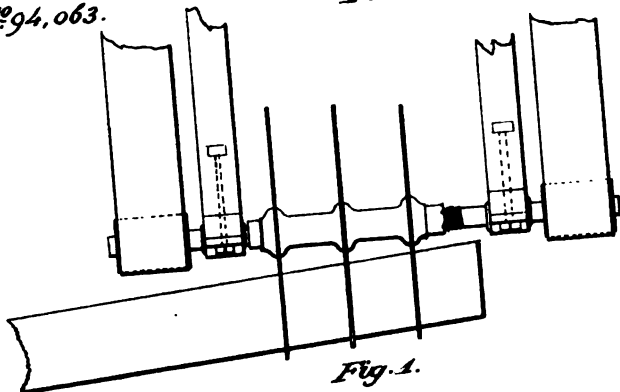


Fig. 1.

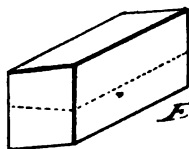


Fig. 2.

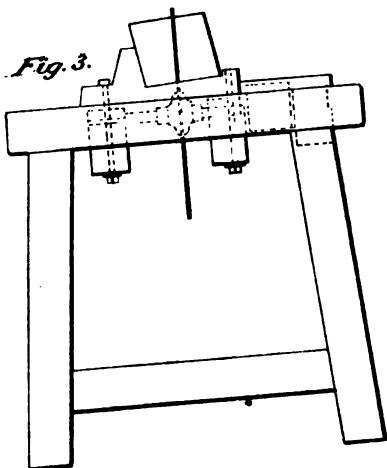


Fig. 3.

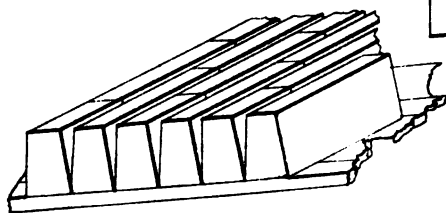


Fig. 4.

attest:
S. S. Lammann
Notary Public

Inventor;
Wm. W. Ballard
Burris B. Waddell

Statement of the case.

toward the splitting saw in an inclined position, inclined in contradistinction to a position level at top and bottom, in such a manner that the line of the cut will form the other two beveled sides of two blocks, each of which has the top and bottom level, or in parallel planes, and the sides beveled as shown in Fig. 4, and, moreover, has the grain running in the direction of one of the beveled sides, as clearly shown in Figs. 2 and 3. These blocks will then be twelve inches long, six inches high, three inches wide at top, and four inches wide at the base.

"The figures of feet and inches we have, of course, used only as an illustration, as different dimensions of lumber may be used, but those given will do for an ordinary street block.

"The two great advantages of this method are economy of lumber and of labor and time, the only loss of lumber being the small pieces cut off at each end to start the bevel. Each two cuts, or rather one cut and one splitting, produces two complete blocks ready for use.

"Having thus described our invention, what we desire to secure by letters patent is—

"The herein-described method of cutting blocks for wooden pavement, so as to form by two cuts, or one cut and one splitting, two finished blocks with top and bottom level, or in parallel planes, and the sides beveled, one side being inclined with the fiber, and without waste of material, substantially as set forth."

The defendant pleaded the Statute of Limitations, whereupon the complainant amended, and the defendant subsequently demurred, and, the demurrer being overruled, the defendant, after interposing another plea of want of notice, answered, denying that it had, in any way, violated the rights of the complainant, and, among other things, averring that all the substantial claims of complainant's alleged patents were covered by previous patents granted to Nicolson, De Golyer, Miller and Mason, Stone, Cranford and others; and that wooden pavements, in all substantial particulars identical

Statement of the case.

with those claimed by complainant, had been laid and used for more than two years before the patents were applied for, in Chicago, New York, Boston, etc., and that the alleged patents are null and void, because the alleged invention is neither new nor useful.

Replication was filed and proofs taken. It appeared that patent No. 101,590 was originally granted to Cowing, whose first application was made in November, 1865, and rejected December 27, of that year, whereupon it was amended and renewed in 1869, but the decision was that the application had been abandoned. It was afterward entertained, and was twice amended in 1870, and the patent was finally issued April 5, 1870. In the original application Cowing said, as in the patent as issued :

“The nature of my invention consists in providing and arranging blocks of a peculiar shape in manner to form wedge-shaped crevices for the reception of earth or gravel, and wherein such earth or gravel will be retained to act as a key to bind and confine the blocks in their place.”

The amended claim of May, 1869, was :

“The above described wood pavement, constructed of rectangular blocks, having each a wedge-shaped piece cut from one of its four vertical sides to form a corresponding space for filling, and placed and filled in, substantially as set forth.”

The amended claims of February 22, 1870, were :

“1st. A wood pavement, consisting of blocks having one or more inclined sides, forming between them wedge-shaped spaces or crevices, which are filled with earth, gravel, or other suitable material, substantially as herein described.

“2d. In wood pavement, wedge-shaped spaces or crevices for the reception of earth, gravel, or other filling to act as a key to bind and confine the blocks in their places, substantially as described.

“3d. A wood pavement block having one or more oblique or inclined sides, so as to form, when set, wedge-shaped

Statement of the case.

spaces or crevices to receive earth, gravel, or other filling, substantially as set forth.

"4th. In wood pavement, in combinations with wedge-shaped crevices above, formed by the peculiar shape of the blocks, for receiving gravel or other filling, a continuous base beneath, formed by the complete fitting together of the same blocks at the bottom, substantially as specified."

On the 31st of March, 1868, a patent was issued to Miller and Mason, of Chicago, Illinois, for "certain new and useful improvements in wood pavements," in which the claim is—

"A pavement constructed of wedge-shaped blocks A, when laid so as to break joints with those of the opposite rows, in combination with a concrete filling, and in further combination with a continuous wood foundation and so laid as to form continuous rows across the street."

It is said in the specification of that patent:

"The blocks A are to be cut from plank, and are of the usual size, having the fiber vertical. The blocks of our pavement, however, differ from all other blocks in use for pavements, in having both sides beveled from top to bottom, as shown by the end view of the blocks in the drawings. The blocks thus prepared are placed in the board or plank foundation B in transverse rows. Each block may be secured to the foundation by a nail or spike as shown at *a*. It will be observed that in consequence of the peculiar shape of the blocks those in the several rows touch each other at the bottom, but are some distance apart at the top, forming between the rows wedge-shaped channels. These channels are to be filled with concrete, or gravel and coal tar, or other suitable substance, furnishing the necessary foot-hold for horses.

* * * * *

"The blocks can be cut with less waste of material by cutting them from timber, and splitting the timber blocks with the proper bevel. This makes a strong pavement, and as the blocks have a broad base they will not cut or break

Statement of the case.

the foundation when very heavily loaded teams are driven over it."

August 20, 1867, letters patent were reissued to Samuel Nicolson, of Boston, for "a new and useful improved wooden pavement," the original letters having been issued August 8, 1854, and new letters issued dated December 1, 1863. The claims of the second reissue are:

"1. Placing a continuous foundation or support, as above described, directly upon the roadway, then arranging thereon a series of blocks, having parallel sides, endwise in rows, so as to leave a continuous narrow groove or channel-way between each row, and then filling said grooves or channel-ways with broken stone, gravel and tar, or other like materials.

"2. The formation of a pavement by laying a foundation directly upon the roadway, substantially as described, and then employing two sets of blocks; one, a principal set of blocks that shall form the wooden surface of the pavement when completed, and an auxiliary set of blocks or strips of board which shall form no part of the surface of the pavement, but determine the width of the groove between the principal blocks, and also the filling of said groove, when so formed, between the principal blocks, with broken stone, gravel and tar, or other like material.

"3. Placing a continuous foundation or support, as above described, directly upon the roadway, and then arranging thereon a series of blocks having parallel sides endwise in a checkered manner, so as to leave a series of checkered spaces or cavities between said blocks and then filling said checkered cavities with broken stone, gravel and tar, or other like material.

"4. The formation of a pavement by laying a foundation directly upon the roadway, substantially as above described, and then employing two sets of blocks, viz.: one, a principal set of blocks that shall form the wooden surface of the pavement and an auxiliary set of blocks that shall form no part of the wooden surface of the pavement, but determine the

Statement of the case.

dimensions of the tessellated cavities between the principal blocks, and then filling said tessellated cavities with broken stone, gravel and tar, or other like material."

February 28, 1824, English letters patent were granted to A. H. Chambers for "improvements in preparing and paving horse and carriage ways," in which the nature of the invention is said to—

"Consist in an arrangement of conical-formed stones or other hard mineral or silicious substances of said form, placed on their natural bases, cemented together at their lower extremities, and having their remaining interstices filled with loose materials insoluble in water."

He describes pyramidal stones, "cut in the form represented in the drawing, and placed with their large end or natural base downward," to be grouted at their bases by a good strong cement; the upper part of the interstices that will then be left vacant to be filled "with finely broken flints, patent English pozzolana powdered, or any othersimilar substance, not soluble in water."

"Fig. 3 represents the stones in that form which I consider the best calculated to effect the required resistance to downward pressure, the size of which should be eight inches square at the apex, twelve inches square at the base, and ten inches high."

He explains that while stones of the shape described are the best adapted for the purpose of the pavement or carriage way, yet to save expense, use may be made for all ordinary pavements of stones as usually prepared for paviours, but taking care "always to lay their natural bases or largest end downward, which is the exact reverse of the mode adopted by paviours;" "the upper part of the intermediate spaces or interstices aforesaid filled with powdered or finely broken matter, not soluble in water, as aforesaid."

June 14, 1825, English letters patent were granted to John Lindsay for "certain improvements in the construction or formation of the horse and carriage ways of streets, turn-

Statement of the case.

pike, and other roads, and an improvement or addition to wheels to be used thereon."

He says, referring to a pavement "with the common or usual sized paving stones," that—

"The method of arranging or laying them is as follows: Instead of laying them with their broadest ends upward, I lay them with their broadest ends downward, and as each stone is made of a wedge form, this leaves a considerable space open between the stones. These I close with smaller stones of a wedge form, which, being carefully placed and well rammed down, after a sufficient quantity of fine gravel or grout has been worked between them, will make a pavement nearly as substantial as a solid sheet of granite."

In 1839, English letters patent were issued to Richard Hodgson for "improvements in the forms or shapes of materials and substances used for building and paving and in their combinations for such purposes," in which he describes an invention consisting in forming and shaping materials and substances according to a new section of the cube obtained by dividing the cube into eight equal prisms or parts, etc., the shapes and forms described, with their combinations, being "applicable generally to materials and substances employed in building and paving, whether of stone, iron, bricks, or wood." The shapes in the case of stone, marble, etc., are "to be formed by sawing or cutting the same out of the full size of the cube and leaving them entire in their relative dimensions, so as to be ready to be placed together either horizontally, vertically, or obliquely, as the case may require," while for "wood paving a peculiar disposition of the materials or blocks thus shaped, and, if necessary, pegged or dowed, will be required," etc. The blocks may be packed up together in the workshop in masses, so as to be laid down more speedily on the ground, where they must be fastened together with pegs or with any bituminous compound usually employed for similar purposes. They must be placed nearly vertically, as the tree grows, and according to the traffic the

Statement of the case.

depth or substance of the wood pavement must be increased or diminished. They may in most cases be laid across the street from side to side, but, when necessary, in a diagonal line.

Defendant introduced various letters patent, to wit: For improvement in "the machine for resawing boards and other timber" (issued to Crosby, 1841); for "improvements in saw mills, for curved and bevel sawing, but which may also be used for rectilinear sawing" (issued to Normand, 1854); for "a new and improved mode of sawing stone or marble into tapering and other forms" (issued to McBird, 1856); for "an adjustable table for reciprocating saws," "whereby the proper bevel may be imparted to the ribs of vessels and other objects with accuracy and facility" (issued to Hinchman, 1863); for "improvement in the manufacture of siding" (issued to Millengar, 1864); for "an improved saw mill," "so as to cut ship timbers and other irregular forms" (issued to Wright & Molyneux, 1865); and also extracts from a volume entitled "Turning and Mechanical Manipulation," by Charles Holtzapffel, London, 1847.

These extracts treat of cutting, by means of guides, rectangular pieces from the end of a long bar, and rhomboidal pieces of any angle and magnitude; the sawing of small pieces into regular and irregular polygons of any particular angles and numbers of sides; the cutting of miters, etc.; the sawing beveled edges and oblique prisms or those in which the angular variations are in the vertical plane, rhomboids, or squares.

"When the pieces are parallel in one direction and beveled in the other, they may be cut out without any waste beyond that arising from the passage of the saw."

Figure 743 shows a method of cutting blocks at one cut for each piece, into rhombuses, which are shown separately at *a*, which blocks can be afterward divided into two, so as to make triangular shaped blocks such as are shown at *c*.

At the hearing in special term the bill was dismissed, and

Argument of counsel.

the decree being affirmed in general term, the complainant has prosecuted his appeal to this Court.

The opinion of Judge Cox at special term was adopted by the Court in general term (Cartter, C. J., Hagner and James, J. J.), and from it it appears that it was held that no case of actionable infringement was made out as to No. 94,068, and that Nos. 94,062 and 101,590 were void for want of patentable novelty. *Brown v. District of Columbia*, 3 Mackey, 502.

Messrs. A. S. WORTHINGTON and C. C. COLLE, for appellant :

Local statutes of limitation do not apply to suits brought to recover damages for the infringement of letters patent of the United States.

Parker v. Hallock, 2 Fish. Pat. Cas. 548, note; *Collins v. Peebles*, 2 Fish. Pat. Cas. 541; *Read v. Miller*, 2 Biss. 12; *Wood v. Cleveland Rolling Mill Co.* 4 Fish. Pat. Cas. 550; *Wetherill v. N. J. Zinc Co.* 1 Ban. & Ard. 105; *Anthony v. Carroll*, 2 Ban. & Ard. 195; *Sayles v. Lake Shore & M. S. R. Co.* 9 Fed. Rep. 515, note; *Sayles v. Dubuque & S. C. R. Co.* 9 Fed. Rep. 516; *Hayward v. St. Louis*, 11 Fed. Rep. 427; *May v. Fond du Lac Co.* 27 Fed. Rep. 691; *May v. Logan Co.* 30 Fed. Rep. 250; *May v. Ralls Co.* 31 Fed. Rep. 473.

The statute governing this subject, section 55 of the Act of July 8, 1870 (16 Stat. at L. 206), provides that all actions shall be brought during the term for which the letters patent shall be granted or extended, or within six years after the expiration thereof.

Ballard v. Pittsburg, 12 Fed. Rep. 783; *Vaughan v. East Tenn. V. & G. R. Co.* 11 Pat. Off. Gaz. 789.

The patents themselves are notice to everybody.

Boyden v. Burke, 14 How. 575 [5 Am. & Eng. 470].

The only difference between an infringer who is such innocently and a malicious infringer is in the measure of damages.

Argument of counsel.

Emerson v. Simm, 6 Fish. Pat. Cas. 285; *Nat. Car-Brake Shoe Co. v. Terre Haute Car & Mfg. Co.* 19 Fed. Rep. 514; *New York Pharmaceutical Asso. v. Tilden*, 14 Fed. Rep. 740; *Walker Pat.* 569.

The answer admits the infringement.

Agawam Woolen Co. v. Jordan, 7 Wall. 583 [8 Am. & Eng. 24]; *Gear v. Fitch*, 3 Ban. & Ard. 573.

The District of Columbia is liable for the acts of the board of public works.

Barnes v. Dist. Col. 91 U. S. 540; *Neuchatel Paving Co. v. Dist. Col.* 17 Ct. Cl. 396; *Donovan v. U. S.* 21 Ct. Cl. 122; *Cluas v. Dist. Col.* 2 MacAr. 493; *Roderick v. Dist. Col.* 3 MacAr. 595; *Dist. Col. v. Washington Gas-light Co.* 3 Mackey, 347, 348.

The answer does not aver that this invention had been abandoned. This defence must be specifically set up.

Providence Rubber Co. v. Goodyear, 9 Wall. 793-801 [8 Am. & Eng. 150].

If the defence had been set up, the evidence would not support the averment.

Cochrane's Case, Comrs. Dec. 1869; *Smith v. Goodyear D. V. Co.* 93 U. S. 496 [11 Am. & Eng. 1]; *Woodbury Planing Machine Co. v. Keith*, 101 U. S. 488 [12 Am. & Eng. 404]; *U. S. Rifle & Cartridge Co. v. Whitney Arms Co.* 118 U. S. 22 [15 Am. & Eng. 364]; *Ballard v. Pittsburg*, 12 Fed. Rep. 783.

The claim that Cowing's patent is invalid because the amendment made in 1870 included matters not covered by the original application, is one not set up in the answer.

Walker, Pat. 440, 450, 603; *Providence Rubber Co. v. Goodyear*, 9 Wall. 793 [8 Am. & Eng. 150].

A patentee is entitled to the benefit of a new result which follows from the invention described in his specification, whether he perceives it or not.

Tucker v. Spalding, 13 Wall. 453 [8 Am. & Eng. 474]; *Stow v. Chicago*, 104 U. S. 550 [13 Am. & Eng. 426]; *Woodman v.*

Argument of counsel.

Stimpson, 3 Fish. Pat. Cas. 98; Graham v. Mason, 5 Fish. Pat. Cas. 1; Dalton v. Nelson, 13 Blatch. 357.

Cowing's combination is new.

Elizabeth v. Nicholson Pavement Co. 97 U. S. 126 [11 Am. & Eng. 514]; Webster Loom Co. v. Higgins, 105 U. S. 591 [14 Am. & Eng. 70]; Wicke v. Ostrum, 103 U. S. 461 [13 Am. & Eng. 114]; Phillips v. Detroit, 111 U. S. 606 [15 Am. & Eng. 269].

Each patent covers only the device described in the specification thereof.

McCormick v. Talcott, 20 How. 402 [6 Am. & Eng. 410]; Bridge v. Excelsior Mfg. Co. 105 U. S. 618 [14 Am. & Eng. 112]; Duff v. Sterling Pump Co. 107 U. S. 636 [14 Am. & Eng. 440]; Blake v. San Francisco, 113 U. S. 679 [15 Am. & Eng. 535]; Cantrell v. Wallick, 117 U. S. 694 [16 Am. & Eng. 322].

The doctrine that a patent for a combination includes an equivalent of any particular part of the combination is confined to cases in which the equivalent was known at the time of the invention patented.

Gould v. Rees, 15 Wall. 187 [9 Am. & Eng. 39]; Gill v. Wells, 22 Wall. 1 [9 Am. & Eng. 471]; Rowell v. Lindsay, 113 U. S. 97 [15 Am. & Eng. 441].

The patent is *prima facie* evidence of the utility of the invention which it covers.

Lehnbeuter v. Holthaus, 105 U. S. 94.

And the fact that the defendant has used the invention is sufficient to establish the utility of the thing patented as against it.

Whitney v. Mowry, 4 Fish. Pat. Cas. 207.

Specifications in an application for a patent may be amended by adding new specifications and new claims involved in the original specifications, models and drawings, and a patent may issue for all, having effect from the date of first application.

Argument of counsel.

Singer v. Braunsdorf, 7 Blatch. 521-530; *Winans v. Denmead*, 15 How. 330-343 [6 Am. & Eng. 107]; *Godfrey v. Eames*, 1 Wall. 317-324 [7 Am. & Eng. 174]; *Seymour v. Osborne*, 11 Wall. 516-560 [8 Am. & Eng. 290]; *Smith v. Goodyear D. V. Co.* 98 U. S. 486-489 [11 Am. & Eng. 1]; *Dunbar v. Myers*, 94 U. S. 187-195 [11 Am. & Eng. 59]; *Union Paper Bag Machine Co. v. Murphy*, 97 U. S. 120-125 [11 Am. & Eng. 494]; *Elizabeth v. Nicholson Pavement Co.* 97 U. S. 126 [11 Am. & Eng. 514].

Where a patent has been granted, it relates back to, and takes effect from, the date of the first application, and avoids intermediate patents.

Johnsen v. Fassman, 1 Woods, 138-142; *Rich v. Lippincott*, 2 Fish. Pat. Cas. 1-9; *Dental Vulcanite Co. v. Wetherbee*, 3 Fish. Pat. Cas. 87-97; *Blandy v. Griffith*, 3 Fish. Pat. Cas. 609-617; *McMillin v. Barclay*, 5 Fish. Pat. Cas. 189-199; *Henry v. Francestown Soap-Stone Stove Co.* 9 Pat. Off. Gaz. 408; *Ballard v. Pittsburg*, 12 Fed. Rep. 783.

The patent itself makes a *prima facie* case in favor of the patentee that he was the first inventor.

Curtis, Pat. § 472; *Phila. & T. R. Co. v. Stimpson*, 14 Pet. 449-458 [4 Am. & Eng. 324]; *Roberts v. Dickey*, 4 Fish. Pat. Cas. 532-541; *McComb v. Ernest*, 1 Woods, 195-203.

The party asserting a prior use of a claimed invention has the burden of proof on him, and must show such use beyond any reasonable or fair doubt.

Coffin v. Ogden, 18 Wall. 120-124 [9 Am. & Eng. 125]; *Howe v. Underwood*, 1 Fish. Pat. Cas. 160-175; *Goodyear v. Day*, 2 Wall. Jr. 283-299; *Hayden v. Suffolk Mfg. Co.* 4 Fish. Pat. Cas. 86-104; *Webster Loom Co. v. Higgins*, 16 Pat. Off. Gaz. 675-678; *Washburn v. Haish*, 4 Fed. Rep. 900-904.

Mr. HENRY E. DAVIS, for appellee:

The use of wood instead of stone is a mere substitution of materials, and so not patentable.

Argument of counsel.

Hotchkiss v. Greenwood, 1 Whit. Pat. Cas. 610, 11 How. 248 [5 Am. & Eng. 240]; *Hicks v. Kelsey*, 2 Whit. Pat. Cas. 475, 18 Wall. 670 [9 Am. & Eng. 150]; *Reckendorfer v. Faber*, 92 U. S. 847 [10 Am. & Eng. 373]; *Curtis*, Pat. §§ 51, 52 and cases cited; *Phillips v. Detroit*, 17 Pat. Off. Gaz. 191.

The substitution of one known means for another is not patentable.

Curtis, Pat. § 49; *Bean v. Smallwood*, 2 Story, 408; *Couse v. Johnson*, 16 Pat. Off. Gaz. 719.

The patent is clearly invalid.

Draper v. Hudson, 6 Fish. Pat. Cas. 327; 3 Pat. Off. Gaz. 355; *Milligan & H. Glue Co. v. Upton*, 1 Ban. & Ard. 498, 6 Pat. Off. Gaz. 837, 97 U. S. 3 [11 Am. & Eng. 458]; *McCloskey v. DuBois*, 19 Pat. Off. Gaz. 1286.

Exhibit No. 11, showing the state of the art, is clearly admissible.

Brown v. Piper, 91 U. S. 37 [10 Am. & Eng. 272]; 10 Pat. Off. Gaz. 417; *Westlake v. Cartter*, 6 Fish. Pat. Cas. 519, 4 Pat. Off. Gaz. 636.

The expedient for economizing material plainly lacks the elements of a patentable invention.

Snow v. Taylor, 14 Pat. Off. Gaz. 861.

The applicant enlarged his claim to cover structures for which patents in the interim had issued to other parties, and to embrace an invention different from his original application.

Chicago & N. W. R. Co. v. Sayles, 15 Pat. Off. Gaz. 243, 97 U. S. 554 [12 Am. & Eng. 121].

Where a known manufacture or product is in the market, purchasers are not bound to inquire whether it was made on a patented machine or by a patented process.

Goodyear v. N. J. Cent. R. Co. 1 Fish. Pat. Cas. 626; *Boyd v. McAlpin*, 3 McLean, 427; *Boyd v. Brown*, 3 McLean, 295.

Opinion of the Court.

Mr. Chief Justice FULLER delivered the opinion of the Court:

Was a wood pavement "composed of blocks, each side having a single plain surface and one or more of the sides being inclined, and the blocks being so laid on their larger ends as to form wedge-shaped grooves or spaces to receive concrete or other suitable filling," patentable April 5, 1870, in view of the state of the art?

Chambers had, in 1824, described a pavement of pyramidal stones, twelve inches square at the base, eight inches square at the apex, and ten inches high, placed with their larger end downward, and the interstices filled with loose materials insoluble in water.

Lindsay's invention, in 1825, comprised stones made of a wedge-shaped form, laid with their broadest ends downwards, leaving a considerable space between them to be closed with smaller wedge-formed stones, with fine gravel or grout worked between them.

Nicholson's pavement was composed of blocks of wood laid in rows across the street, with spaces obtained by interposing narrow wooden strips between the blocks, to be filled with concrete or other suitable filling.

Cowing disclaimed "a wood pavement composed of wedge-shaped blocks when the blocks are laid alternately on larger and smaller ends, so as to form a continuous surface of wood," but claimed the arrangement of the blocks so as to leave wedge-shaped spaces to receive filling to act as a key to bind the blocks together. But reference to these prior patents clearly shows that the formation of wedge-shaped spaces to receive concrete or other filling by laying blocks with one or more inclined sides with their larger ends downward, the filling acting as a key, and the use of wooden blocks in that way, were well known at the time of the alleged invention under consideration.

The blocks of the Lindsay patent are of the same shape as those of Cowing, but are of stone, while the latter are of

Opinion of the Court.

wood, but this was nothing more than the substitution of one material for another without involving a new mode of construction, or developing anything substantially new in the resulting pavement. *Hotchkiss v. Greenwood*, 11 How. 248 [5 Am. & Eng. 240]; *Hicks v. Kelsey*, 18 Wall. 670 [9 Am. & Eng. 150]; *Smith v. Goodyear Dental Vulcanite Co.* 93 U. S. 486 [11 Am. & Eng. 1]; *Phillips v. Detroit*, 111 U. S. 604 [15 Am. & Eng. 269].

The filling under Lindsay's patent was with small stones, fine gravel, or grout, while Cowing names a filling of earth, gravel, or some other similar substance, but Nicholson used broken stone, gravel and tar, or other like material, being the same filling for the same purpose and with substantially the same result, while the material of the Nicholson block was the same as that of Cowing.

It is argued that gravel and similar substances cannot be forced into the stone blocks of the Chambers and Lindsay patents, and that in ramming gravel between wooden blocks it of necessity indents the blocks, and the filling must adhere much more firmly than would be the case if they were stone. There is nothing said about this by Cowing in his specification, but he is entitled, if this is an advantage directly following from the alleged invention as described, to the benefit of it, whether he perceived it or not. *Stow v. Chicago*, 104 U. S. 547, 550 [13 Am. & Eng. 426]. The same effect, however, would be obtained in ramming filling between the blocks of any wooden pavement, and the same liability of the filling "to extend laterally into the fiber of the wood and seat itself therein" is found in the Nicholson pavement.

In the Chambers patent the blocks had four inclined sides, which would make the filled space run lengthwise as well as crosswise. In the Cowing patent the crevices run lengthwise "across the direction of the street or road."

As Cowing's combination simply embraces blocks of the same shape and material, and similar filling, applied in substantially the same way, and producing substantially the

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same results as in the prior patents refering to, it cannot be regarded as possessing patentable novelty.

The first claim of patent No. 94,062 covers, as an article of manufacture, "wedge-shaped blocks having the grain running parallel to one and oblique to the other of their beveled sides, and produced substantially in the manner referred to."

The second is "a wooden street pavement constructed, substantially as hereinbefore decribed, of wedge-shaped blocks with the grain running and produced in the manner and for the purposes set forth."

The original application of Ballard was filed June 15, 1869, and rejected by Examiner Spear upon the ground that the claim was essentially the same as that in No. 94,063, which was for a mode of cutting blocks. It was then amended and again rejected, the examiner saying: "It is admitted that there is no difference between the blocks of applicant and those of Miller and Mason in configuration, nor is any difference claimed of functions. These blocks and those of the patent referred to, once laid, would be indistinguishable, serving under the same conditions, precisely the same purposes, and wearing equally as long. The difference lies in the mode of cutting, by which not a different block is produced, but the same block is cut with a minimum of waste of material." From this decision an appeal was taken to the Examiners-in-Chief, who affirmed the ruling, holding that "The trouble with the present application appears to be that the specification and claim merely set forth and embrace a paving block and the use thereof, having a certain form and being so cut that the grain will run in certain angles with the sides, or parallel thereto, and without any reference to the mode and manner of manufacturing. Blocks having all the peculiarities set forth may be manufactured without resorting to the method by which it seems the ones described in the application were made; and it does not follow, therefore, that the block described and

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claimed is the new article of manufacture produced by the new invention, nor is it at all material whether the grain runs as set forth or the blocks have the precise form described. Therefore these peculiarities are not the patentable features of the invention; they merely result from the invention."

The application was then renewed by Ballard & Waddell with the result before us, but it is plain that the patent was granted for novelty in the method of making the block and not in the block itself, nor in a wooden street pavement so constructed. It is not denied that the Ballard block is identical in shape with those set forth in the Cowing, Chambers, Lindsay, and Miller and Mason patents, but it is claimed that a difference exists between it and that of Miller and Mason in the arrangement of the grain, namely, running parallel with one and oblique to the other of its beveled sides.

We can discover nothing materially different in the practical result of having the grain run in this way, and no material difference is disclosed by the evidence.

The specification asserts that the gravel in the filling is not so liable to jam and leave the lower portion of the space loosely or entirely unfilled, where the blocks have one perfectly smooth side, and that "Only one corner of the base is at all likely to become broken off by transportation and rough handling; whereas, in the ordinary block both corners are liable to such accidents;" but, as appears from the evidence, "If the blocks are cut with the grain in the manner described in said patent, although one side is not so likely to break off as the other, yet the side that has the grain oblique to it is twice as likely to be broken off as the blocks made in the ordinary way, that is, with the grain vertical;" and "The effect of the smooth side of one block, if there were such an alleged advantage in said side, would be fully recompensed by the additional roughness of the other side;" and it would seem that the durability of the block is less where the grain is inclined than where it is vertical. It is 120 U. S. 101-102.

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fully shown in an elaborate report upon wood paving, quoted from in the evidence, and which, it is testified, agrees with general experience, that vertical fiber blocks have far greater power of resistance than blocks with fibers horizontal, and with fibers at various degrees of inclination.

The manner of laying the blocks is substantially the same as in prior pavements.

The process of making the block is given in patent 94,063, the claim of which is "The herein-described method of cutting blocks for wooden pavement, so as to form by two cuts, or one cut and one splitting, two finished blocks with top and bottom level, or in parallel planes, and the sides beveled, one side being inclined with the fiber, and without waste of material, substantially as set forth."

From what we have said it will be perceived that this claim and the first claim of patent No. 94,062 must be considered together. The manner of producing these blocks is described as cutting them from lumber by means of guides so as to cut the blocks of certain bevels, by which a block is produced having two of its sides inclined and with the grain running parallel to one and oblique to the other of the beveled sides; but the essential features of the apparatus described in this patent appear in many of the defendant's exhibits. Instead of having a table parallel with the shaft of the saw or at right angles with the saw itself, the patent in question uses a rest or guide in presenting the material to the saws, but the use of such guides is shown in Holtzapffel's "Turning and Mechanical Manipulation," and Crosby's patent and others.

The prior existence of the method of cutting blocks without waste by severing a large block by a cross cut from a long stick and then dividing that block into two similar blocks by a splitting cut is satisfactorily established, as also the same result reached in the same way in the treatment of stone. In the case of the Ballard block, the splitting cut is made in a direction parallel with the grain; but that is be-

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cause the object of having the grain run in a particular way controls the action of the mechanic, who makes the cut as he desires the fiber to run.

Complainant's expert admits that the patentee in the McBird patent, by the first cut he makes, produces a block of rhomboidal form, and, by second oblique cut, divides his block into two equal wedge-shaped blocks, produced without waste of material; and the difference he points out between that and the Ballard and Waddell patent is, so far as the cutting operation is concerned, that in the former the cut which divides the rhomboid into two wedge-shaped blocks is made across the grain, while in the latter it is made in the general direction of the grain.

To cut the block so as to get the grain in a particular way, and so as to avoid waste, requires simple mechanical skill, without involving invention.

The result is that none of these claims can be sustained, and the decree of the Court below is affirmed.

130 U. S. 103.

Notes :

1. Substitution of material not involving invention.

Hotchkiss v. Greenwood, 11 How. 248 [5 Am. & Eng. 240].

Hicks v. Kelsey, 18 Wall. 670 [9 Am. & Eng. 150].

Reckendorfer v. Faber, 92 U. S. 347 [10 Am. & Eng. 373].

Smith v. Goodyear D. V. Co. 93 U. S. 486 [11 Am. & Eng. 1].

Terhune v. Phillips, 99 U. S. 592 [12 Am. & Eng. 270].

Sandusky Seat Co. v. Comstock [13 Am. & Eng. 222].

Phillips v. Detroit, 111 U. S. 604 [15 Am. & Eng. 269].

Shenfield v. Washawannuck Co. 137 U. S. 56.

Florsheim v. Schilling, 137 U. S. 64.

Hoff v. The Iron Clad Mfg. Co. 139 U. S. 326.

Notes and citations.

2. Inventor entitled to all uses of his invention, whether he perceives them or not.

Roberts v. Ryer, 91 U. S. 150 [10 Am. & Eng. 302].

Stow v. City of Chicago, 104 U. S. 547 [13 Am. & Eng. 426].

Heald v. Rice, 104 U. S. 737 [13 Am. & Eng. 460].

Patents in suit :

No. 101,590. T. Cowing. April 5, 1870. Mode of constructing Wooden Pavements for Streets.

No. 94,062. Ballard & Waddell. August 24, 1869. Street Pavements.

No. 94,063. Ballard & Waddell. Method of cutting Blocks for Street Pavements.

OTHER SUITS ON SAME PATENTS :

Ballard v. City of Pittsburg, 1882. 12 Fed. Rep. 783.

Brown v. District of Columbia, 1884. 3 Mackey, 502.

Cited :

IN SUPREME COURTS IN :

Hill v. Wooster, 1889. 132 U. S. 693.

Florsheim v. Schilling, 1890. 137 U. S. 64.

Notes and citations.

IN DECISIONS OF COMMISSIONER OF PATENTS IN :

Ex parte Odenheimer, November, 1889. 49 O. G. 1693.

IN TEXT BOOKS:

Walker on Patents, 2d ed. 1889. pp. 24, 27, 315.

Robinson on Patents, 1890. §§ 911, 925.

Argument of counsel.

HENRY G. THOMPSON, APPELLANT, v. THOMAS
G. HALL ET AL.*

120 U. S. 117-122. October Term, 1888.

[Bk. 32, L. ed. 876 ; 47 O. G. 656.]

Affirming *ibid*, 25 Fed. Rep. 906 ; 33 O. G. 1140.

Argued March 6, 7, 1889. Decided March 18, 1889.

First inventor. Particular patent sustained.

1. The conclusion of the Circuit Court (25 Fed. Rep. 906) that Moses C. Johnson was not the first and original inventor of the improvements claimed in letters patent, No. 232,975, granted October 5, 1880, to Henry G. Thompson, as assignee of said Moses C. Johnson, for Cutting-Pliers, sustained and the decree affirmed. (p. 515.)

Appeal from a decree of the Circuit Court of the United States for the Eastern District of New York, dismissing a suit, for the alleged infringement of letters patent, No. 232,975, granted October 5, 1880, to the plaintiff, as assignee of the inventor, Moses C. Johnson, for an improvement in cutting-pliers.

See the same case below, 25 Fed. Rep. 906.

The facts are stated in the opinion.

Mr. HORACE BARNARD, for appellant :

The testimony of Moses C. Johnson, who sold his invention for cash and stock in the company, is positive and was not shaken.

Johnson says he made his "*working movement*," complainant's Exhibit C, between the 10th and 20th of May, 1879, to show his invention ; that it was taken apart, and that mills were made from it and templates to form mills by ; that it was immediately afterward adopted by the company.

* See Explanation of Notes, page III.

Argument of counsel.

On or about the 1st of July, 1879, the first complete improved nipper was made by these mills, and between that date and May 1, 1880, between 25,000 and 30,000 of the No. 2 size nippers were made and sold. Every one of these had the rounded prong and notch "perfected gearing" made by Moses C. Johnson.

The plea of implied license set up by the defendants is a confession without an avoidance.

Section 37 of the Act of July 8, 1870, which is in § 4899 of the Revised Statutes, granting to every man who purchases of the inventor or "discoverer, or with his knowledge and assent constructs any newly invented or discovered machine, or other patentable article, prior to the application by the inventor or discoverer for a patent, or who sells or uses one so constructed, shall have the right to use, and vend to others to be used, *the specific thing* so made, or purchased, without liability therefor."

Hapgood v. Hewitt, 119 U. S. 226 [16 Am. & Eng. 412], is a case decided by this Court since the hearing at circuit of this cause. Hewitt, for a salary, was employed to devote his time and services to *devising improvements* in, and getting up and perfecting, the plows manufactured by the corporation. Several improvements were suggested by the president and others, and Hewitt was directed to proceed with the work without delay. Nevertheless, the Circuit Court held: 1st. That Hewitt was not expressly required by his contract to exercise his inventive faculties for the benefit of his employer. 2d. That whatever right the employer had was only a naked license, not transferable, and was extinguished by the dissolution of the corporation. And this Court: "We are of opinion that the views taken of the case by the Circuit Court are correct."

Johnson applied for his patent on June 2, 1880, and the defendants might claim exemption for the use and sale of the improved cutting pliers up to that date, under the words of the statute and the construction given it by

Argument of counsel.

this Court in *Andrews v. Hovey*, 123 U. S. 272 [17 Am. & Eng. 268].

That will not be contested, although Johnson swears that he did not intend to give them his invention; he knew he had two years allowed him, and the proper opportunity to sell had not arrived.

This is not knowledge and consent, to anything more than the making and selling of the specific articles made and sold. This, even if it created a naked personal license, could not be assigned, and when the association of defendants was dissolved, ended that. The present defendants have committed their infringing acts since that time.

Mr. AMOS BROADNAX, for appellee:

Upon the testimony of five witnesses, and drawings and models, it is submitted that Hall had the invention of the interlocking connection between the handles of his nipper reduced to practice before Johnson went in the employ of the Interchangeable Tool Co., which was, as Johnson swears, on April 20, 1879.

Here we have, upon the proofs adduced, the Hall nipper having in it every part and combination of the parts claimed by the patent in suit, and that before Johnson claims to have conceived the invention. We have the Hall nipper as patented by Hall, November 5, 1878, with the two additional elements added, viz.: the gearing between the handles and the lip over the upper end of the spring.

Now, therefore, upon the facts disclosed by the record, and assuming Johnson to be the first and original inventor—which is in no sense conceded—it is contended: First,—that Johnson had abandoned his invention to the public. That the company acquired an implied license to work the patent through the *laches* of Johnson in not asserting his claim to the invention, and by his failure to object to its manufacture and sale by the company, and by his tacit consent that the company manufacture and sell the nipper for its own account.

Argument of counsel.

Second,—that under Section 4899, the tool company having commenced the manufacture and sale of the nipper with the knowledge and consent of Johnson long before he applied for his patent, acquired a right to use the invention without liability to the patentee, or his assignee.

It is an undisputed fact that Johnson went in the employ of the company on April 20, 1879, and remained in such employ until the first of May, 1880; that the invention he claims was made, if ever, between the 10th and 20th of May, 1879, and that during the time he was in such employ the company manufactured and sold—he himself, assisting in such manufacture—upwards of *thirty thousand* of these nippers, embracing the invention for which Johnson subsequently and surreptitiously obtained the patent. During this time, and to accomplish this work, the company had expended a large sum of money. All the expense and labor attending the establishment of a new industry was incurred by the company, while Johnson stood by, giving the company no notice, uttering no claim to any improvement upon the nipper for which he intended to apply for a patent. The company having no notice, could take no measures for protecting itself. Johnson was silent until the company had made all the outlay, then he steps forward and without saying a word to the company, applies for a patent and sells it for a mere trifle to Mr. Thompson and Mr. Thompson commences a proceeding to shut up the company's works.

I do not doubt but that Johnson's conduct amounted to an abandonment absolutely of any right he may have had to a patent.

Elizabeth v. Pavement Co. 97 U. S. 134 [11 Am. & Eng. 514]; Kendall v. Winsor, 21 How. 829. [7 Am. & Eng. 1]; McClurg v. Kingsland, 1 How. 202 [4 Am. & Eng. 382]; Pierson v. Screw Co. 3 Story, 402; Chabot v. Buttonhole Co. 6 Fish. 71; Wind Mill Co. v. Wind Mill. Co 8 Blatch. 295; Barry v. Crane, 22 Fed. Rep. 396.

Opinion of the Court.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought in the Circuit Court of the United States for the Eastern District of New York, by Henry G. Thompson against Thomas G. Hall, J. F. Oliver, Samuel Leopold and David L. Harris, for the alleged infringement of letters patent, No. 232,975, granted October 5, 1880, to the plaintiff, as assignee of the inventor, Moses C. Johnson, for an improvement in cutting-pliers, on an application filed June 2, 1880.

The specification, drawings and claim of the patent are as follows:

"This invention relates to cutting-pliers, and is an improvement on that class of pliers represented in United States patent, No. 209,677, dated November 5, 1878, granted to T. G. Hall, to which reference may be had. In that invention, either of the two hand-levers may be turned on its pivot without turning the other; and the tool-body formed by the face or covering plates is permitted to vibrate, or turns more or less, with relation to the handles, and the central space between the cutting-faces of the jaw-levers, when the pliers are taken in the hand to be used, drops more or less out of line with the central line of the handles, making, as it were, a loose joint midway between the ends of the pliers.

"One of the objects of my invention is to construct a stiff pair of pliers, or pliers in which the hand and jaw-levers shall each be compelled to move positively in an opposite direction to the movement of its fellow, or a pair of pliers in which the tool-body shall not of itself swing or vibrate upon the pins or studs holding the hand-levers.

"In the patent above referred to, the end of wire or other thing cut off by the cutters drops into and injures the spring that opens the jaw-levers. This I obviate by providing each jaw-lever with a lip to cover or bridge the space between the jaws, as the jaw-levers are closed.

"My invention consists in the combination and arrange-

Opinion of the Court.

ment of parts for effecting these ends, as hereinafter specified and claimed.

"Figure 1 represents, in side elevation, a pair of cutting-pliers containing my improvements; and Fig. 2, a like view with one of the body or side plates removed.

"The body of the pliers is composed of two side plates, *a b*. These side plates are fixed together by the screws 2 3 4 5. Of these screws, those 2 3 are the fulcrum of the jaw-levers *c d*, having at their ends the usual cutters or cutting surfaces *c' d'*. Each of these jaw-levers has a lip, *l*, and the end of one meets the end of the other lip just as or just before the two cutting-edges *c' d'* separate the wire or other metal end to be cut off by them, thus closing the space between the said jaw-levers and side plates, in which is placed the spring *f*, and preventing the entrance into said space of hard pieces of wire or other articles that would clog the pliers. These lips also serve another essential purpose—viz.: that of holding the ends of the spring from displacement, and obviating the employment of a separate pin or stud to hold the said spring at one end, as heretofore common.

"The screws 4 5 serve as the fulcrum for the hand-levers *g h*, having short arms *g' h'*, to act upon the ends of the longer arms of the jaw-levers and turn them on their fulcrum to close the jaws and bring the cutting-edges together. The spring *f* opens the jaws the instant the clasp pressure on the hand-levers is relaxed.

"In order to move the jaw-levers equally at all times and prevent the jaw-levers and body of the pliers turning on the handles, I have provided one hand-lever, with a prong, *m*, having a rounded end that enters a rounded notch in the opposite lever. This one prong and its notch are always in engagement, and so connect the two levers that the body of the pliers cannot vibrate on the screws 4 5, but, on the contrary, the two levers may turn each on its own pivot, both levers always turning the same distance, but in exactly opposite directions. This connection between the two hand-levers, as

(No Model.)

M. C. JOHNSON.
Cutting Pliers.

No. 232,975.

Patented Oct. 5, 1880.

Fig:1.

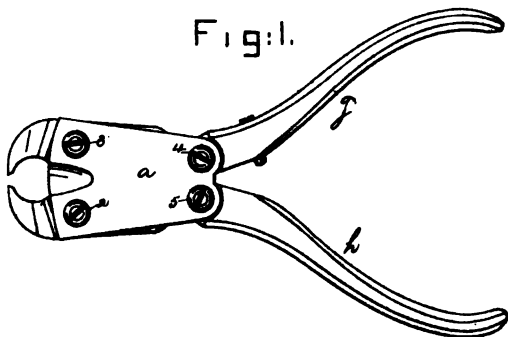
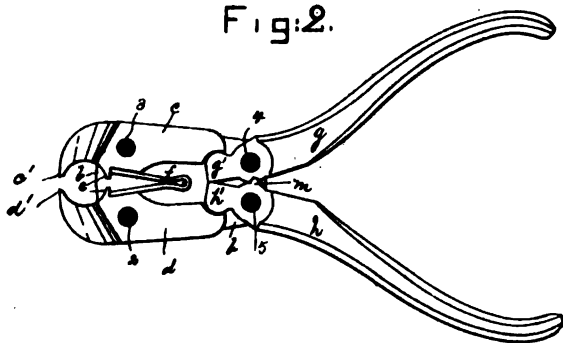


Fig:2.



WITNESSES -

A. Reynolds
L. J. Connor

INVENTOR -

Moses C. Johnson
by Emily Gregory *Attys.*

Opinion of the Court.

described, insures a stiff pair of pliers, that can be handled more readily and accurately than the old form of cutting-pliers referred to, and which are more positive as to the movement of the cutting-jaws.

"I am aware, in bolt-cutters, where the short ends of the hand-levers are jointed with the long ends of the cutting-jaw levers, that a series of teeth or cogs have been interposed to cause the hand-levers to be geared together; but in such bolt-cutters one single tooth and notch would not operate to always keep the two hand-levers locked together as to their movement in unison, as is the case with my one prong, *m*, rounded at its end and inserted within a rounded notch. I claim—

"The body composed of the side plates *a b*, the independent fulcrum 2 3 4 5 for the jaw-levers and hand-levers, the jaw-levers provided with cutting-edges and with lips *e*, and the hand-levers having short arms *g' h'*, and a prong and notch always in engagement, as described, combined with the V-shaped spring, held, as described, by the lips of the jaw-levers, all as and for the purpose set forth."

One of the defences set up in the answer is, that Johnson and Thompson surreptitiously obtained the patent in fraud of the rights of the defendants; that the defendants are trustees and directors of a New York corporation, known as the Interchangeable Tool Company; that that corporation was organized in August, 1878, for the purpose of manufacturing cutting-pliers or nippers, under letters patent, No. 209,677, granted to the defendant Hall, November 5, 1878; that Hall invented certain improvements upon such pliers, and immediately described and explained them to the officers of the company; that the company thereupon caused a model of them to be made, embracing such improvements; that Johnson was employed to make such model pliers for the company, and made them for the company while in its employ, and under the direction of Hall; that Johnson was in the employ of the company, in making such pliers, from April

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20, 1879, until May 1, 1880, during which time the company made and sold upward of 80,000 of such pliers, with the knowledge and consent of Johnson, and without any objection on his part, and without notice that he claimed to be the inventor of the whole or any part of such pliers, or intended to apply for a patent for the same; that Hall was the first and original inventor of said original cutting-pliers and of said improvements thereon, and assigned to the company the whole of the patent of November 5, 1878, immediately on its issue, and also the whole of the said improvements upon such cutting-pliers; that Johnson, after so being in the employ of the company for one year, was dismissed from its service, and thereupon, as the result of a conspiracy between Thompson, Johnson and one Gustam, Johnson falsely claimed that he was the first and original inventor of said improvements, and applied for a patent therefor, and sold his pretended claim to the invention to Thompson; and that Johnson, without the knowledge of Hall, or of the other defendants, or of the company, applied for a patent for said improvements, falsely alleging that he was their first and original inventor, and surreptitiously obtained said patent, No. 232,975, for said invention of Hall, and for an improvement upon the pliers so patented November 5, 1878.

There was a replication to this answer, proofs were taken, and the Circuit Court entered a decree dismissing the bill, from which the plaintiff has appealed. In its opinion (25 Fed. Rep. 906) the Circuit Court stated, that the question at issue was whether the combination covered by the claim of the plaintiff's patent was invented by Johnson while he was an employé of the corporation; that the plaintiff had sought to prove that a model produced by him, known as Exhibit C, was made by Johnson while he was in the employ of the company; that, on the other hand, the defendants had sought to prove that that model was not made by Johnson while he was employed by the company, but after he had been discharged from its employ, and for the purpose of supporting

Notes and citations.

a fraudulent claim to an invention really made by Hall, and which claim had been put forth by Johnson for the first time after he had been discharged from the service of the company; and that, upon a full consideration of all the evidence, the conclusion of the Court was, that Exhibit C was not made while Johnson was a workman for the company, but was made subsequently to his leaving its employment, and that he was not the first inventor of the combination claimed in the patent issued to the plaintiff.

The testimony is voluminous and contradictory, and, without discussing it, it is sufficient to say that we are of opinion that the evidence establishes the conclusion reached by the Circuit Court, and that *the decree must be affirmed; and it is so ordered.*

120 U. S. 121-122.

Patent in suit :

No. 232,975, H. G. Thompson, October 5, 1880. Cutting-Pliers.

OTHER SUITS ON SAME PATENT :

Thompson v. Hall, 1885; 25 Fed. Rep. 906; 33 O. G. 1140.

Syllabus.

SQUIRE B. RUDE ET AL, ADMINISTRATORS, ET AL,
APPELLANTS v. JOHN M. WESTCOTT ET AL, EX-
ECUTORS.*

120 U. S. 152-167. October Term, 1888.

[Bk. 32 L. ed., 888.]

Argued March 7, 1889. Decided March 18, 1889.

*Assignment. Title—absolute transfer of. Measure of damages.
License fee. Sales. Royalty. Actual damages.*

1. Where an assignment of certain letters patent was of the assignor-patentee's "entire right, title and interest in and to the letters patent, and in and to the invention and improvements represented * * * therein, including any renewal, reissue or extension thereof," *held*, that the complainants—assignees had a sufficient title to the patents. (p. 533.)
2. *Held*, that the concluding provision in the assignment dividing the net profits among the parties thereto, so as to give the patentee one-fourth himself, in no respect modified or limited the absolute transfer of title. (p. 533.)
3. The clause in the absolute assignment appointing the assignees attorneys of the grantor, with authority to use his name in the management, does not restrict in any way the power of the assignees after the transfer of the property. (p. 534.)
4. Under this assignment, the complainants do not hold the property as trustees for the benefit of the patentee; they are only trustees for him of one-fourth of the profits which may be received by them. (p. 534.)
5. Where proof was offered to establish a fixed royalty or license fee, *held*, that a payment of any sum in settlement of a claim for an alleged infringement cannot be taken as a standard to measure the value of the improvements patented, in determining the damages sustained by the owners of the patent in other cases of infringement; neither could an

* See Explanation of Notes, page III.

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- agreement be so received as evidence where the charge may be fixed at the pleasure of the owner of the patent. (p. 535.)
6. Where there has been such a number of sales by a patentee of licenses to make, use and sell his patents, as to establish a regular price for a license, that price may be taken as a measure of damages against infringers. (p. 536.)
 7. In order that a royalty may be accepted as a measure of damages against an infringer, who is a stranger to the license establishing it, it must be paid or secured before the infringement complained of; it must be paid by such a number of persons as to indicate a general acquiescence in its reasonableness by those who have occasion to use the invention; and it must be uniform at the places where the licenses are issued. (p. 536.)
 8. "Actual damages must be calculated, not imagined; and an arithmetical calculation cannot be made without certain data on which to make it." *City of New York v. Ransom*, 23 How. 487 [7 Am. & Eng. 88], reaffirmed and followed. (p. 538.)

[Citations in the opinion of the court:]

Tilghman v. Proctor, 125 U. S. 136, 143 [17 Am. & Eng. 552.] p. 536.
Seymour v. McCormick, 16 How. 480 [6 Am. & Eng. 200.] p. 536.
New York City v. Ransom, 23 How. 487 [7 Am. & Eng. 88.] pp. 536, 538.
Packet Co. v. Sickles, 19 Wall. 611, 617 [9 Am. & Eng. 280.] p. 536.
Birdsall v. Coolidge, 93 U. S. 64 [10 Am. & Eng. 45.] p. 536.
Root v. R. Co., 105 U. S. 189, 197 [13 Am. & Eng. 556.] p. 536.

Appeal from a decree of the Circuit Court for the United States for the District of Indiana, in favor of complainants for damages for infringement of patents.

Statement by Mr. Justice FIELD:

The original complainants, John W. Westcott and Charles W. West, allege in their bill that they are the owners, by assignment from the patentee, of two patents to Hiram Moore for improvements in seeding machines, one issued November 20, 1860, and extended for seven years from

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November 20, 1874, and the other issued March 28, 1861, for seventeen years; that since the assignment the defendants have made, used, and sold seeding machines in the District of Indiana, and in various other places in the United States, without the consent or license of the complainants and in infringement of their patents; and that the defendants are still engaged in such unlawful acts. The complainants therefore pray that the defendants may upon their best knowledge and information answer as to the matters alleged, and be compelled to account for and pay to the complainants the profits acquired by them and the damages sustained by the complainants, and be enjoined from making, using and vending the said machines, or any part thereof, or any seeding machine made in accordance therewith, or similar to those heretofore made, used and sold by them. The bill was filed in March, 1876. An answer was filed in June following, in which the defendants admit that they have been and are engaged in the manufacture and sale of seeding machines, but deny that they infringe either of the patents or any of the rights of the complainants under them, or that the complainants have been thereby deprived of any profits. They also deny that Hiram Moore was the first and original inventor of the alleged improvements described and claimed in the patents, and designate several patents previously issued which, as they allege, embody the substantial and material parts of the invention claimed.

In March, 1881, an amendment to the answer was allowed, in which the defendants deny that the complainants have such title to the patents as to enable them to maintain the suit against the defendants, setting up that on the 10th of November, 1874, the complainant, Westcott, by an instrument in writing, assigned to Isaac Kinsey and Aaron Morris an undivided part of his interest in the patents, which instrument is recorded in the Patent Office of the United States, and that on the 4th of February, 1879, the said Isaac Kinsey assigned one-twelfth interest in the patents to one Lowell L. Lawrence

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and the Wayne Agricultural Company, which assignment is also on record in the Patent Office.

A replication to the answer having been filed, proofs were taken, and among other things the assignment by Moore, the patentee, to the complainants, and the assignment by Westcott to Kinsey and Morris, mentioned in the bill and answers were produced. They are as follows, omitting such parts as are not material to the questions presented :

Assignment of Moore to Westcott and West and contract between them.

" This agreement made this sixth day of October, Anno Domini one thousand eight hundred and seventy-four, by and between Hiram Moore, residing near Ripon, in the County of Fond du Lac, and State of Wisconsin, party hereto of the first part ; Charles W. West, of Cincinnati, in the County of Hamilton, and State of Ohio, party hereto of the second part, and John M. Westcott, of Milton, in the County of Wayne, and State of Indiana, party hereto of the third part, witnesseth :

" That whereas sundry letters patent of the United States heretofore have been granted to said Moore, which said letters patent are respectively numbered, entitled, and dated as follows, to wit: No. 30,685, dated November 20th, 1860, and entitled 'Improvement in Seed-Drills,' and No. 31,819, dated March 26th, 1861, and entitled 'Improvement in Seed-Drills;' and whereas the said Moore is justly indebted unto the said Charles W. West in the full sum of ten thousand dollars, for money advanced to aid him, the said Moore, in perfecting his inventions, and is desirous of securing the repayment of the same ; and whereas the said Westcott is desirous of acquiring an interest in the inventions and letters patent aforesaid, and in any reissue, renewal, or extension thereof: Now, therefore,

" Know all men by these presents, that, for and in consideration of the premises, and of the sum of five dollars in law-

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ful money, to me in hand, by the said Westcott and West, before the execution hereof, paid, and of other valuable considerations, me thereunto moving, I, the said Hiram Moore, do hereby assign, sell, and set over unto the said Charles W. West and John M. Westcott the entire right, title, and interest in and to the letters patent aforesaid, and in and to the inventions and improvements represented, shown or described therein, including any renewal, reissue, or extension thereof, the same to be held and enjoyed by the said West and Westcott, and their legal representatives, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made, to the full end of any term or terms for which the letters patent aforesaid, or either of them, have been, or hereafter may be, granted, reissued, renewed, or extended.

"I hereby further agree to sign such lawful papers, and do such lawful acts as may, by the counsel learned in law, of the said West and Westcott, be deemed necessary or expedient in order to obtain an extension or reissue of the patents aforesaid, or to assert, maintain, or defend the rights secured by said letters patent. It is expressly understood, however, that the costs and charges of the proceedings aforesaid shall be defrayed by said West and Westcott, as hereinafter provided.

"In consideration of the premises, I hereby further make, constitute, and appoint the said Charles W. West and John M. Westcott my true and lawful attorneys in law and in fact, with power irrevocable, giving and granting to them full and exclusive and unreserved power and authority, for me and in my name, place and stead, to assume and to take upon themselves the entire and exclusive management and control of the aforesaid letters patent, and of each and every one of them, and to dispose of all the rights, title and interest which I have under the same, and under each and every of them, for such price or prices, upon such terms, and to such persons, and for such place or places, as they, my said

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attorneys, shall deem proper, and in my name, place and stead, and as my own proper act and deed, to sign, seal, deliver and acknowledge all such deeds and instruments of writing as shall be necessary or proper for the granting or licensing to others the said rights under the said letters patent, and to each and every of them, and to ask, demand, sue for, and receive the price of fees, or any part or parts thereof, paid or payable for such grants or licenses, and in my name to execute and deliver receipts and acquittances therefor, and in my name to bring to account and reckoning, and to ask, demand, sue for, and recover and receive of and from all and any person whomsoever, who may have been, or may be, manufacturing or selling said drills containing the improvements aforesaid, or by any or either of them, such reasonable price or fee for such use of said improvements, or either of them, as my said attorneys shall deem proper and reasonable, * * * and generally to do, and perform, and execute in my name as aforesaid, all and whatever other acts, matters, and things that they may deem expedient and requisite, or may be advised to do in and about the premises, as fully and effectually, to all intents and purposes, as if I myself were present and did the same, I, the said Hiram Moore, hereby ratifying, allowing and confirming, and agreeing from time to time, and all times hereafter, to ratify, allow and confirm as good and valid all and whatsoever the acts, matters and things which my said attorneys, or their substitute, shall lawfully do, or cause to be done, in and about the premises, by virtue of these presents.

* * * * *

“The said John M. Westcott, for his part, agrees, at his own cost and charges, to procure the extension of said letters patent, November 20, 1860, now pending, if practicable, including the expenses already incurred as well as those which hereafter may be incurred in said behalf, which sum is to be paid absolutely whether said extension is granted or not, and

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in no event is any part of said sum to be reclaimed from or refunded or repaid by said Moore, or to be deducted from the sum or sums collected under said patents.

"It is hereby covenanted and agreed, by and between the parties hereto, as follows: That from the sum or sums collected under the letters patent aforesaid, from sales, royalties, or settlements, or from any other source, shall first be deducted the costs, charges, and expenses of collecting the same, including all litigation expenses, save those of the extension application, and then the net profits or receipts shall be divided among the parties hereto as follows: To Hiram Moore, or his legal representatives, one-fourth part; to C. W. West, or his legal representatives, one-fourth part; to John M. Westcott, or his legal representatives, one-half part. In case of loss or failure to realize any profit under said patents, all litigation expenses aforesaid are to be paid by said Westcott, it being expressly understood by the parties hereto that under no circumstances are said Moore or West to incur any obligation, or be under any liabilities for said expenses. It is further agreed that John M. Westcott is to make no charge for his own time spent in this behalf, nor is said West to make any charges for his services.

"It is also expressly understood that said Moore's interest is to continue during and throughout the extended time of the patent of November 20, 1860. Should such extension be granted, the parties hereto hereby agree in good faith to perform the covenants between them made.

"In testimony whereof, the parties hereto have affixed their hands and seals, the day and year first above written.

"In presence of

"WM. B. BALDWIN.

HIRAM MOORE.

"MARY T. PALMER.

C. W. WEST.

J. M. WESTCOTT."

"[Seal.]

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Assignment of Westcott to Morris and Kinsey, and contract between them.

"Whereas, heretofore, to wit, October 6, 1874, Hiram Moore, of Fond du Lac county, Wisconsin; Charles W. West, of Cincinnati, Ohio, and John M. Westcott, of Milton, Indiana, entered into a contract and article of agreement in relation to certain improvements in grain-drills, for which letters patent have been issued to said Moore, No. 80,685, dated November 20, 1860, and No. 31,819, dated March 26, 1861, in which agreement, amongst other things, the said Moore assigns and conveys to said West one-fourth, and to said Westcott one-half, and retains to himself one-fourth of said interest, contained in said letters patent, for said improvements in said grain or seed-drills;

"In said assignment, said Westcott, on his part, agrees, at his own cost and charges, to procure the extension of said letters patent of November 20, 1860, including expenses already incurred, as well as those that may hereafter occur in said behalf, to be paid whether such extension be granted or not, and in no event is said sum, or any part thereof, to be reclaimed from or refunded by said Moore, and that from sums collected under said letters patent, from sales, royalties, or settlements, or from any other source, shall first be deducted the costs, charges and expenses of collecting the same, including all litigation expenses, save those of the extension application, and then the net profits, or receipts, shall be divided among said parties; to said Moore one-fourth, said West one-fourth, and said Westcott one-half part. In case of loss or failure to realize any profits under said patent, all litigation expenses aforesaid are to be paid by said Westcott, said Moore or West to be under no liabilities for said expenses. Said Westcott is to make no charge for his own time spent in this behalf, nor is said West to make any charge for his services; said Moore's interest is to continue during and throughout the extended term of the patent of November 20, 1860, should such extension be granted;

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"And whereas, in consideration of the foregoing, Isaac Kinsey and Aaron Morris, of Milton, in Wayne county, Indiana, are desirous of obtaining an interest in said letters patent, they hereby agree to and with said John M. Westcott, of the same place, to severally take an equal interest with him in the same;

"Therefore, this article of agreement witnesseth: That said John M. Westcott hereby agrees to and with said Isaac Kinsey and Aaron Morris, and does hereby set over and assign to each of them one-third part of his one-half interest, retaining one-third part himself in said letters patent; and said Kinsey and Morris, full understanding the original agreement mentioned, do hereby agree to and with said Westcott, to be at one-third expense each with said Westcott, jointly, as set forth in said agreement, and shall be equally entitled—and receive one-third profit or proceeds, if any, in said one-half interest, and in all things pertaining hereto to be governed by this and the original contract and agreement.

"In witness whereof, we have hereunto set our hands and affixed our seals, this 10th day of November, 1874.

"J. M. WESTCOTT. [Seal.]

"ISAAC KINSEY. [Seal.]

"AARON MORRIS. [Seal.]"

In May, 1881, the case was brought to a hearing on the pleadings and proofs, and the Court held that the patents to Moore were valid; that he was the original and first inventor of the improvements specified in them, and that the title to them was vested in the complainants; that the defendants had infringed the first and second claims of the patent of 1860, and the sixth claim of the patent of 1861, and that complainants were entitled to recover the profits and gains which had accrued to the defendants from the manufacture, use and sale of the improvements specified in those claims; and ordered a reference to one of the masters of the Court to

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ascertain, state, and report an account of the gains and profits which the defendants or either of them had received by infringing the said claims, as well as the damages the complainants had sustained thereby.

The master thereupon proceeded to comply with the order, and on the 6th of December, 1888, made his report to the Court. That report is not contained in the record, but from references to it, and quotations from it in the opinion of the Court in considering exceptions taken to it, it appears that he reported that the complainants waived all claim for profits and relied upon the proofs produced as establishing a fixed license fee or royalty as the measure of damages. After stating the testimony of the witnesses who had been examined on the point, he said that it was very difficult to determine from this evidence whether it made proof of such an established royalty or license fee as furnished a criterion upon which to estimate complainants' damages.

The proof on the subject of damages was thus stated in his report:

"It is proved that the Wayne Agricultural Company paid the royalty of \$1 for one-horse machines and \$2 for two-horse machines for four years—a sum which, in the absence of evidence to the contrary, may be regarded as reasonable. Mast & Co. paid between \$2,000 and \$3,000 in cash and conceded privileges, which Westcott estimates to have been worth as much more, for infringement. It is true Westcott threatened suit, and when money is paid under threat of suit merely as the price of peace, it furnishes no evidence of the amount or value of the real claim in dispute; but the settlement made shows that Westcott was paid something substantial for the infringement, and that the fear of litigation was a small element of the settlement itself.

"Westcott says that he arrived at the amount by his estimate of the number of the machines made by Mast & Co., and other considerations which are explained in Mast's deposition. Mast says no estimate was made of the number of

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machines" "Westcott says he gave licenses like the one attached to his deposition to Mast & Co., and to English & Over. Mast was examined but not interrogated on that point. Mr. English, the active man in the firm of English & Over, says he does not recollect whether they took a license or not."

Notwithstanding the difficulty expressed by him, the master reported that the defendants had made and sold 800 infringing one-horse machines, and that complainants' damages on that account were \$800; and that defendants had made and sold 800 infringing two-horse machines, and that complainants' damages on that account were \$1,600, making \$2400 damages in full. The Court after a full consideration of the exceptions, came to the conclusion that without further evidence the complainants were entitled to only nominal damages, and entered an order that the case be recommitted to the master, with directions to admit further evidence as to damages, and to report the same, with his conclusions of law.

On the 23d of April, 1885, the master made a second report, in which among other things he stated that the additional evidence taken by him did not strengthen the proofs previously made in support of the claim that the complainants had established a license fee, or royalty, which furnished a criterion by which to estimate the damages. He found that between 1870 and May, 1881, the defendants had made and put on the market about two thousand drills which infringed "the elements of the combination covered by the first claim," one-half of which were one-horse and one-half two-horse drills. He then considered the value of the claim or combination to defendants, who had used it in violation of complainants' rights, and stated that the evidence on this subject was conflicting; that some of the manufacturers considered it of so much value that during the life of the patent they had paid a stipulated license for its use, and that afterwards they said it was worth very little if anything, and that it might be true that its value had been impaired and

Argument of counsel.

destroyed by new devices and improvements; and that the value of the combination as estimated by the witnesses varied from nothing to six dollars per drill. He therefore reported that complainants were entitled to damages for 1000 one-horse drills at 75 cents each, and 1000 two-horse drills at \$1.50 each, making in all, \$2250; but how he arrived at the conclusion that seventy-five cents on each drill on one class, and one dollar and fifty cents on each drill of another class, were the actual damages sustained, nowhere appears.

Exceptions were taken to the report on various grounds, and among others: That the findings were based on speculation, and were only guesses, both as to the number of infringing drills and as to the value of the claim infringed; and that it failed to state any definite facts or evidence as a basis or ground for the findings. In July, 1885, the Court decreed that the complainants were entitled to recover \$1800 for the damages sustained, and that so far as the master's report was inconsistent with that decree, the exceptions to it were sustained, but in other respects the exceptions were overruled. From this decision the appeal is taken.

Pending the suit Charles W. West, one of the complainants, and George W. Rude and John R. Rude, two of the defendants, died, and the bill was revived by the substitution of the executors of West in his place, and the administrators of George W. Rude in his place, and the executor of John R. Rude in his place.

Messrs. L. HILL and ARTHUR STEM, for appellants:

An estate may merge for one part and continue for the remaining part.

4 Kent, Com. 101; 3 Preston, Conv. 88, 89.

The merger is co-extensive with the interest merged, as in the case of joint tenants and tenants in common, and it is only to the extent of the part in which the owner has two several estates.

Argument of counsel.

4 Kent, Com. 100 ; 8 Preston, Conv. 88, 89.

Where the legal equitable interests unite in the same person, they always merge in law, and will merge in equity unless the purposes of justice or the intent of the parties are against it.

4 Kent, Com. 102 ; Hill, Trustees, 252 and authorities cited in note thereto.

Where the estate becomes vested in trustees, one of whom is to take a beneficial interest in the trust property, he takes an absolute estate to the extent of such interest ; and that interest may be seized and sold under execution.

Bolles v. State Trust Co. 27 N. J. Eq. 308 ; Wills v. Cooper, 25 N. J. L. 137 ; Mason v. Mason, 2 Sandf. Ch. 433.

Where a patent issues to two persons, jointly, and one of them afterwards dies, the share of the deceased patentee does not go to the survivor, but to the heirs of the decedent.

Northwestern Fire Extinguisher Co. v. Philadelphia Fire Extinguisher Co. 6 Pat. Off. Gaz. 34 ; Whittemore v. Cutter, 1 Gall. 431.

The assignees of a patent take as tenants in common, and not as joint tenants.

Curtis, Patents, § 186, 192 ; Hindmarch Pat. 67, 68, 236, 252 ; Parkhurst v. Kinsman, 2 Blatch. 72 ; 1 Blatch. 488, 496 ; Clum v. Brewer, 2 Curt. 506 ; Vose v. Singer, 4 Allen, 226 ; Mathers v. Green, 1 L. R. Ch. App. 29 ; Dunham v. Indianapolis & St. L. R. Co. 7 Biss. 223, 9 Chicago Legal News, 55 ; Herring v. Gas Consumers Asso. 13 Pat. Off. Gaz. 637.

Any undivided interest is assignable.

R. S. § 4896 ; Potter v. Holland, 4 Blatch. 206 ; 1 Fish. Pat. Cas. 327 ; Parker v. Haworth, 4 McLean, 370.

It makes no difference that the assignment took place before the extension of the patent was granted.

Nicholson Pavement Co. v. Jenkins, 14 Wall. 456 [11 Am. & Eng. 514] ; Clum v. Brewer, 2 Curt. 506 ; Curtis, Pat. §

Argument of counsel.

208; *Ruggles v. Eddy*, 10 Blatch. 52; *Mowry v. Grand St. & N. R. Co.* 10 Blatch. 89; *Phila. W. & B. R. Co. v. Trimble*, 10 Wall. 367 [8 Am. & Eng. 261]; *Gayler v. Wilder*, 10 How. 477 [5 Am. & Eng. 188]; *Wilson v. Rosseau*, 4 How. 646 [4 Am. & Eng. 436].

In equity the *allegata* and *probata* must agree.

Providence Rubber Co. v. Goodyear, 9 Wall. 793 [8 Am. & Eng. 150]; *Harrison v. Nixon*, 9 Pet. 503; *Foster v. Goddard*, 1 Black, 518; *Simms v. Guthrie*, 3 Cranch, 19.

A claim for a combination is not infringed by the use of only a part of the combination.

Prouty v. Ruggles, 16 Pet. 341 [4 Am. & Eng. 351]; *Eames v. Godfrey*, 1 Wall. 78 [7 Am. & Eng. 158]; *Case v. Brown*, 2 Wall. 320 [7 Am. & Eng. 360]; *Dunbar v. Myers*, 94 U. S. 187 [11 Am. & Eng. 59]; *Fuller v. Yentzer*, 94 U. S. 297 [11 Am. & Eng. 138].

Messrs. E. E. WOOD and EDWARD BOYD, for appellees:

A deed, absolute on its face and with full covenants, may be modified and converted into a mortgage by a verbal condition.

Babcock v. Wyman, 19 How. 289-299.

A general conveyance may be limited by restrictive words contained in the same instrument.

People v. Gosper, 8 Neb. 309; *Higgins v. Wasgatt*, 34 Maine, 308.

The object and purpose of the contract should be considered for the purpose of construction.

Bickford v. Cooper, 41 Pa. 146; *Thomas v. Wiggers*, 41 Ill. 478; *Brown v. Slater*, 16 Conn. 196; *Fowle v. Bigelow*, 10 Mass. 379; *Phelps v. Bostwick*, 22 Barb. 318; *Pollard v. Maddox*, 28 Ala. 321; *Price v. Evans*, 26 Mo. 49.

The extent of the legal interest of a trustee in an estate given him in trust is measured by the object and extent of the trust upon which the estate is given.

Argument of counsel.

Perry, Trusts, § 312; 3 Redf. Wills, 534; *Cleveland v. Hallett*, 6 Cush. 406; *Gould v. Lamb*, 11 Met. 84; *Brooks v. Jones*, 11 Met. 191; *Fisher v. Fields*, 10 Johns, 495; *Brewster v. Striker*, 1 E. D. Smith, 321.

A power of sale can be executed only by the persons to whom it is expressly given.

Perry, Trusts, 447; 3 Redf. Wills, 547; 3 Wms. Exrs. 1018.

If a power of sale, or any other power, is given to two or more persons by name, with no words of survivorship, and one dies, or refuses to act, the others cannot execute the power.

Perry, Trusts, 447, 448; *Shelton v. Homer*, 5 Met. 465; *Floyd v. Johnson*, 2 Litt. (Ky.) 109; *Chandler v. Rider*, 102 Mass. 268; *Tainter v. Clark*, 13 Met. 226; *Fontain v. Ravenal*, 17 How. 369; *Ross v. Barclay*, 18 Pa. 184.

A sale by one of the trustees would be void, since trustees cannot act separately, unless the authority be to them, or either of them.

2 Washb. Real Prop. 484; *Wilbur v. Almy*, 12 How. 180-191; *Sinclair v. Jackson*, 8 Cow. 543; *Franklin v. Osgood*, 14 Johns. 527; *Ridgely v. Johnson*, 11 Barb. 527; *Cox v. Walker*, 26 Me. 504; *Vandever's App.* 8 Watts & S. 405; *Hill v. Josselyn*, 13 Smedes & M. 597; *Chambers v. Minchin*, 7 Ves. Jr. 198; *Ex parte Rigby*, 19 Ves. Jr. 463.

In regard to the execution of a power conferred upon two or more trustees, a distinction is drawn between a naked power and a power coupled with an interest.

Franklin v. Osgood, 14 Johns. 560; *Sinclair v. Jackson*, 8 Cow. 554; *Hunt v. Rousmanier*, 8 Wheat. 174; *Peter v. Beverly*, 10 Pet. 564; *Gray v. Lynch*, 8 Gill, 413; *Williams v. Otey*, 8 Humph. 563.

The two instruments will be taken together, and construed as one contract.

Rorabacher v. Lee, 16 Mich. 172; *Heald v. Hodgson*, 16 Maine, 219; *Spangler v. Springer*, 22 Pa. 454; *Vaugine v.*

Argument of counsel.

Taylor, 18 Ark. 65; Rogers v. Kneeland, 18 Wend. 114; Dillingham v. Estill, 8 Dana, 28; Stacey v. Randall, 17 Ill. 467; Hill v. Huntress, 48 N. H. 480; Norton v. Kearney, 10 Wis. 443; Logan v. Tibbott, 4 Greene (Iowa), 392; Philips v. Scott, 2 Watts, 318; Bradley v. Marshall, 54 Ill. 173; Smith v. Turpin, 20 Ohio St. 478; Allen v. Nofsinger, 13 Ind. 494; Parks v. Cooke, 8 Bush, 169; Van Hagen v. Van Rensselaer, 18 Johns. 420.

And the recitals in each may be explained or corrected by a reference to any other, in the same way as if they were only several parts of one instrument.

2 Pars. Cont. 502; Sawyer v. Hammatt, 15 Maine, 43; Price v. Bigham, 9 Harr. & J. 296.

If a trustee conveys the trust estate in violation of the terms of his trust, the *cestui que trust* may follow it into the hands of a grantee with notice, or one who takes without consideration.

Oliver v. Piatt, 3 How. 333; Wormley v. Wormley, 8 Wheat. 423; Murray v. Ballou, 1 Johns. Ch. 567; Bailey v. Wilson, 1 Dey & B. Eq. 182; Den v. McNight, 11 N. J. L. 385; Case v. James, 29 Beav. 512; Mackreth v. Symmons, 15 Ves. Jr. 340.

No person can be introduced into a firm without the consent to it of all who are members.

Pars. Partn. 12; Channel v. Fassitt, 16 Ohio, 166; Kingman v. Spurr, 7 Pick. 235; Murray v. Bogert, 14 Johns. 318; Moddewell v. Kever, 8 Watts & S. 63; Nicoll v. Mumford, 4 Johns. Ch. 522.

An assignee, *pendente lite*, need not be made a party to a bill.

Story, Eq. Pl. § 156; 1 Dan. Ch. Pr. 281; Sedgwick v. Cleveland, 7 Paige, 287; Cook v. Mancius, 5 Johns. Ch. 93; Brandon v. Cabiness, 10 Ala. 155; Hoxie v. Carr, 1 Sumn. 173; Allen v. Poole, 54 Miss. 323; Boulden v. Lanahan, 29 Md. 200.

Opinion of the Court.

Mr. Justice FIELD (*a*) delivered the opinion of the Court :

The defendants below, appellants here, seek a reversal of the decree of the Circuit Court upon several grounds, and, among others, these: 1st. That the complainants have not established a title in themselves to the patents; and 2d. That they have not proven any damages for the infringement of the claims of the patentee.

The first of these grounds rests upon the supposed effect of the assignment executed by the patentee to the complainants on the 6th of October, 1874. The instrument, in its words of transfer, is amply full and expressive to convey to them his entire interest in and title to not only the patents then issued, but also any renewals or extensions thereof. His language is :

"I, the said Hiram Moore, do hereby assign, sell and set over unto the said Charles W. West and John M. Westcott the entire right, title, and interest in and to the letters patent aforesaid, and in and to the invention and improvements represented, shown, or described therein, including any renewal, reissue, or extension thereof, the same to be held and enjoyed by the said West and Westcott, and their legal representatives, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made, to the full end of any term or terms for which the letters patent aforesaid, or either of them, have been, or hereafter may be, granted, reissued, renewed or extended."

Nothing could add to the force of this language. The concluding provision, that the net profits arising from sales, royalties, or settlements, or other source, are to be divided between the parties to the assignment so as to give the patentee one fourth thereof, does not, in any respect, modify or limit the absolute transfer of title. It is a provision by which the consideration for the transfer is to be paid to the grantor out of the net profits made; it reserves to him no control over the patents or their use or disposal, or any power to in-

(*a*) 130 U. S. inserts "having stated the facts of the case."

Opinion of the Court.

terfere with the management of the business growing out of their ownership. The clause appointing the assignees attorneys of the grantor, with authority to use his name whenever they deem proper in such management, does not restrict in any way the power of the assignees after the transfer of the property. It was inserted, perhaps from over caution, but it was unnecessary. The assignees were under no obligation to consult him in the management of the property. Their own interests were a sufficient guaranty of a judicious exercise of their power of disposition.

The assignment of Westcott to Kinsey and Morris does speak of an interest possessed by him in the patents, but it explains what that interest is, viz.: one-half part of the net profits from the patents, arising from sales, royalties, or settlements, or other source, and it refers to the original assignment of the patentee to West and Westcott.

It follows that the contention of the defendants, that the complainants have not established their title to the patents, is not sustained. The complainants do not hold the property as trustees for the benefit of the patentee; they are only trustees for him of one-fourth of the profits which may be received by them. *Tilghman v. Proctor*, 125 U. S. 136. [17 Am. & Eng. 522.]

The second ground of the appellants is, we think, well taken. The master reported in his first report that the complainants waived all claim for profits arising from the manufacture, use and sale of the patented machines, and relied upon the proofs as establishing such a fixed royalty or license fee as would furnish a criterion by which to estimate complainants' damages; and, proceeding upon that view, he found from two instances, and perhaps a third instance, in which a specified sum had been paid for the use of the machines, or for the privilege of making and selling them, that the complainants had suffered damages on each one-horse machine used by the defendants, of one dollar, and on each two horse machine used by them, of two dollars. One of the
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instances relied upon was that of the Wayne Agricultural Company, which had paid the sums named for the use of the machines for four years. It is not clear when the payment was made, but it would seem that it was made in part under a threat of suit, and in part as the result of an arbitration after litigation on the subject had been commenced, and to avoid future litigation. It is clear that a payment of any sum in settlement of a claim for an alleged infringement cannot be taken as a standard to measure the value of the improvements patented, in determining the damages sustained by the owners of the patent in other cases of infringement. Many considerations other than the value of the improvements patented may induce the payment in such cases. The avoidance of the risk and expense of litigation will always be a potential motive for a settlement. The second instance relied upon is that of a corporation by the name of P. P. Mast & Co., which had obtained a license to manufacture grain-drills and seeders at Springfield, Ohio, and to sell the same within the United States, upon an agreement to pay one dollar for every one-horse drill or seeder and two dollars for every two-horse drill, provided that if the fee were paid upon the days designated for semi-annual returns, or within ten days thereafter, a reduction of fifty per cent. should be made from the fee. The corporation soon afterwards changed its feeding device, and thus did not infringe, and it settled for a portion of the fees; but it does not appear what they were. It is plain, without regard to the settlement had, that an agreement of this kind, where the charge may be fixed at the pleasure of the owner of the patent, cannot be received as evidence of the value of the improvements patented so as to bind others having no such agreement. The third instance is that of an alleged license to English & Over. The complainant, Westcott, testifies that they continued to pay as long as they were in partnership, but how much, or how long that partnership continued, does not appear. And Mr. Over, a member of that firm,

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does not recollect that it ever took a license. Westcott also testifies that no other persons or corporations than those mentioned ever took any licenses from them under the patents sued upon.

It is undoubtedly true that where there has been such a number of sales by a patentee of licenses to make, use, and sell his patents, as to establish a regular price for a license, that price may be taken as a measure of damages against infringers. That rule was established in *Seymour v. McCormick*, 16 How. 480 [6 Am. & Eng. 200], and affirmed in *New York City v. Ransom*, 23 How. 487 [7 Am. & Eng. 88]; *Packet Co. v. Sickles*, 19 Wall. 611, 617 [9 Am. & Eng. 280]; *Birdsall v. Coolidge*, 93 U. S. 64 [10 Am. & Eng. 445]; and *Root v. R. Co.*, 105 U. S. 189, 197 [13 Am. & Eng. 556]. Sales of licenses, made at periods years apart, will not establish any rule on the subject and determine the value of the patent. Like sales of ordinary goods, they must be common, that is, of frequent occurrence, to establish such a market price for the article that it may be assumed to express, with reference to all similar articles, their salable value at the place designated. In order that a royalty may be accepted as a measure of damages against an infringer, who is a stranger to the license establishing it, it must be paid or secured before the infringement complained of; it must be paid by such a number of persons as to indicate a general acquiescence in its reasonableness by those who have occasion to use the invention; and it must be uniform at the places where the licenses are issued. Tested by these conditions, the sums paid in the instances mentioned, upon which the master relied, cannot be regarded as evidence of the value to the defendants of the inventions patented. The Court below so treated them, and held that without further evidence the complainants would be entitled only to nominal damages, and remanded the case to the master to take further evidence. He did so, but in his second report he stated that the additional evidence did not strengthen the proofs previously

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made in support of the claim that complainants had established a license fee or royalty which furnished a criterion by which to estimate the damages. He therefore proceeded to estimate the value of the claim or combination patented, to the defendants, who had used it in violation of the complainants' rights, and for that purpose took the opinions of different persons on the subject. Of the witnesses produced by the complainants, it does not appear that any ever manufactured or used the patented machines. One of the principal witnesses stated that he had never read the patent, had never seen a drill made like that described, had no experience in the matter of licenses, and that he placed his estimate of the value of the claim patented at what he considered would be a fair recompense to the inventor. The estimates of all the witnesses of the complainants were merely conjectural; that is, were made without having knowledge of any saving secured either in the cost of the machine or in the labor required for its use, they simply stating that they considered that the amounts named by them would be a reasonable and fair royalty or license fee for the patented drill. Naturally estimates founded upon supposed but not known benefits were widely apart, varying from three to six dollars for a two-horse drill and half those sums for a single horse drill. On the other hand witnesses produced by the defendants, who had examined, and some of whom had used, the patented drills, stated that they did not consider them of any more utility than other seeding drills in use, and that they did not bring any greater price in the market. The master does not appear to have given weight to the judgment of any of the witnesses. but concluded, though by what process of reasoning is not perceived, that seventy-five cents on each one-horse drill and double that sum on each two-horse drill would be the proper amount to allow; and as he had found, though upon testimony equally loose and insufficient, that there were one thousand one-horse drills and an equal number of two-horse drills, he reported that the complainants were entitled to

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\$2250 as damages. The Court was not satisfied with his conclusion, and, without stating the ground of its action, ordered the amount to be reduced to \$1800 as damages which the plaintiff should recover, besides costs, and \$150 fee for the master, sustaining the exceptions to the report so far as it was inconsistent with that decree, and in other respects overruling them.

The action of the Court is subject to the same objection as the report of the master. The ruling that a royalty was established, as made in the first report, had been repudiated by it, and no evidence of the value of the invention to the defendants was adduced except the conjectural estimates stated; and they furnish no satisfactory basis for any damages, much less data, which authorized the specific finding made as to the damages for each drill used. Opinions not founded on knowledge were of no value. Conclusions from such opinions were at best mere guesses. By the decision rendered a settled rule of law was violated, that actual, not speculative, damages must be shown, and by clear and definite proof, to warrant a recovery for the infringement of a patent. As was said long ago by this Court: "Actual damages must be calculated, not imagined; and an arithmetical calculations cannot be made without certain data on which to make it." *New York City v. Ransom*, 23 How. 487, 488 [7 Am. & Eng. 88]. There was no question in this case of damages arising from lost sales, or injurious competition, for no machines had been manufactured and put on the market by the patentee, or by the complainants, his assignees.

No legal ground being shown for the recovery of specific damages for the alleged infringement of the patents, the decree must be reversed, and the cause remanded, with directions to enter a decree for the complainants for nominal damages; and it is so ordered.

Notes and citations.

Notes :

5. Payment of a sum in settlement does not establish a license fee.

Hurlburt v. Schillinger, 130 U. S. 456 [p. 542, *post*].

Damages must be Proven :

Seymour v. McCormick, 16 How. 480 [6 Am. & Eng. 200].

City of New York v. Ransom, 23 How. 487 [7 Am. & Eng. 88].

Philp v. Nock, 17 Wall. 460 [9 Am. & Eng. 84].

Robertson v. Blake, 94 U. S. 728 [11 Am. & Eng. 266].

Else are Nominal :

Seymour v. McCormick, 16 How. 480 [6 Am. & Eng. 200].

Robertson v. Blake, 94 U. S. 728 [11 Am. & Eng. 266].

Black v. Thorne, 111 U. S. 122 [15 Am. & Eng. 201].

Patents in suit :

No. 80,685. H. Moore. November 20, 1860. Seed-Drills.

No. 81,819. H. Moore. March 26, 1861. Seed-Drills.

OTHER SUITS ON SAME PATENTS :

Moore v. Thomas, 1877. 3 Ban. & Ard. 113; 14 O. G. 1.

Westcott v. Wayne Agricultural Works, 1882. 11 Fed. Rep. 298.

Notes and citations.

Cited :**IN SUPREME COURT IN:**

Cornely v. Marckwald, 1889. 131 U. S. 159.

Boesch v. Graff, 1890. 133 U. S. 697.

IN CIRCUIT COURTS IN:

Adams v. Keystone Mfg. Co., February, 1890. 41 Fed. Rep. 595.

Kane v. Huggin's Cracker & Candy Co., December, 1890. 44
Fed. Rep. 287.

Kirk v. Du Bois, March, 1891. 46 Fed. Rep. 486.

IN TEXT BOOKS:

Robinson on Patents, 1890. §§ 1057, 1071, 1098, 1152, 1157.

[illegible]

Syllabus.

J. B. HURLBUT, APPELLANT, v. JOHN J. SCHILLINGER ET AL.*

120 U. S. 456-472. October Term, 1888.

[Bk. 32, L. ed. 1011; 47 O. G. 1067.]

Argued March 19, 1889. Decided April 22, 1889.

Particular patent construed. Disclaimer. Infringement. Evidence of prior public use. Admissibility. R. S. Sec. 4923. Measure of damages—entire profit.

1. Reissued letters patent, No. 4364, J. J. Schillinger, May 2, 1871, (orig. 105,599, July 19, 1870), Concrete Pavement, construed in view of the disclaimer to consist in dividing the pavement into blocks, so that one block can be removed and repaired without injury to the rest of the pavement, the division being effected by either a permanent or a temporary interposition of something between the blocks. (p. 556.)
2. The use of a bottom layer of coarse cement, and placing on it a course of fine cement, and dividing the upper course into blocks by a trowel run partially or wholly through the upper course while it is plastic, in a line coincident with the joints between the sections in the lower layer, accomplishes the substantial results of Schillinger's invention, in substantially the way devised by him, and is within the patent as it stands after the disclaimer. (p. 557.)
3. The first claim of the reissue, as it stands after the disclaimer, is infringed, because the defendant's pavement is a concrete pavement, laid in detached blocks or sections, substantially in the manner shown and described in the specification of the reissue, the detached blocks in the upper course being the equivalent of the detached blocks or sections of the Schillinger pavement. (p. 561.)
4. The second claim of the reissue is infringed, because the temporary use of the trowel or cutting instrument, to divide the upper course into blocks, is the equivalent of the tar-paper of the Schillinger patent, the cutting making a division which

* See Explanation of Notes, page III.

Syllabus.

controls the cracking, and facilitates the taking up and relaying of the blocks or sections in the upper course "without disturbing the adjoining sections," and the trowel being interposed to effect its object during the process of forming the pavement on the spot where it is to remain. (p. 561.)

5. Where testimony of a pavement used in Germany was introduced to show prior public use, *held* that it was clearly inadmissible under R. S. § 4923, because it did not show anything that had been patented or described in a printed publication. (p. 563.)
6. Where the reissue was granted within ten months after the original; the single claim of the original was repeated in the reissue as the second claim; and all objectionable matter inserted in the first reissue claim when granted had been removed by a disclaimer; and the first reissue claim as it stood after the filing of the disclaimer did not expand beyond the claim in the original what was claimed in the reissue; *held* that the reissue, No. 4364, May 2, 1871, John J. Schillinger, Concrete Pavements, as it stood after the filing of the disclaimer, (March 1, 1875), was not open to the objection that it was not for the same invention as that of the original patent, No. 105,599, dated July 19, 1870. (p. 563.)
7. Where it clearly appeared that defendant's infringing concrete flagging derived its entire value from plaintiff's patented invention, and that if it had not been laid in that way, it would not have been laid at all, the rule was applied that "when the entire profit of a business or undertaking results from the use of the invention, the patentee will be entitled to recover the entire profits, if he elects that remedy." (p. 564.)

[Citations in the opinion of the Court:]

Schillinger *v.* Gunther, 14 Blatch. 152; 2 Ban. & Ard. 544; 11 Pat. Off. Gaz. 83. p. 555.

California Artificial Stone Paving Co. *v.* Molitor, 7 Sawy. 190; 8 Fed. Rep. 821; 20 Pat. Off. Gaz. 813. p. 556.

California Artificial Stone Paving Co. *v.* Perine, 7 Sawy. 190; 8 Fed. Rep. 821; 20 Pat. Off. Gaz. 813. p. 556.

Schillinger *v.* Greenway Brewing Co., 21 Blatch. 383; 17 Fed. Rep. 244; 24 Pat. Off. Gaz. 495. p. 556.

Kuhl *v.* Mueller, 21 Fed. Rep. 510; 28 Pat. Off. Gaz. 541. p. 556.

Argument of counsel.

Schillinger v. Cranford, 2 Cent. Rep. 680; 4 Mackey 450; 37 Pat. Off. Gaz. 1349. p. 556.

California Artificial Stone Paving Co. v. Freeborn, 8 Sawy. 443; 17 Fed. Rep. 735. p. 556.

Schillinger v. Middleton, 31 Fed. Rep. 736. p. 556.

California A. S. Paving Co. v. Molitor, 113 U. S. 609. p. 556.

California A. S. Paving Co. v. Schalicke, 119 U. S. 401. p. 556.

Schillinger v. Philip Best Brewing Co. p. 563.

Elizabeth v. Nicholson Pavement Co., 97 U. S. 126 [11 Am. & Eng. 514]. p. 564.

Root v. Lake Shore & M. S. R. Co., 105 U. S. 189 [13 Am. & Eng. 556]. p. 564.

Callahan v. Myers, 128 U. S. 617. p. 564.

Garretson v. Clark, 111 U. S. 120 [15 Am. & Eng. 194]. p. 564.

Appeal from a decree of the Circuit Court of the United States for the Northern District of Illinois, in favor of plaintiffs in a suit for the infringement of reissued letters patent for an improvement in concrete pavements.

The facts are stated in the opinion.

Messrs. L. L. BOND and E. A. West, for appellant:

Courts have no authority to enlarge a claim.

Keystone Bridge Co. v. Phoenix Iron Co. 95 U. S. 278 [11 Am. & Eng. 864].

Where a patent is for a combination or arrangement of certain elements, the elements are to be taken as old and common, or public property.

Corn-planter Patent Cases, 23 Wall. 224 [10 Am. & Eng. 1]; Miller v. Bridgeport Brass Co. 104 U. S. 352 [13 Am. & Eng. 303].

An equivalent is the same as the thing itself.

Union Paper Bag Machine Co. v. Murphy, 97 U. S. 120 [11 Am. & Eng. 494].

The mere carrying forward of an old idea with better results, is not such an invention as will support a patent.

Smith v. Nichols, 21 Wall. 112 [9 Am. & Eng. 425]; Roberts v. Ryer, 91 U. S. 159 [10 Am. & Eng. 302]; Heald

Argument of counsel.

v. Rice, 104 U. S. 755 [13 Am. & Eng. 460]; *Atlantic Works v. Brady*, 107 U. S. 192 [14 Am. & Eng. 380].

Patentees, who are not pioneers in the art, are limited to their actual improvements.

Chicago & N. W. R. Co. v. Sayles, 97 U. S. 561 [12 Am. & Eng. 121]; *Duff v. Sterling Pump Co.* 107 U. S. 636 [14 Am. & Eng. 440].

The end to be accomplished is not the subject of a patent.

Carver v. Hyde, 16 Pet. 513 [4 Am. & Eng. 367]; *Burr v. Duryee*, 1 Wall. 531 [7 Am. & Eng. 224]; *Fuller v. Yentzer*, 94 U. S. 291 [11 Am. & Eng. 138]; *Brooks v. Fiske*, 15 How. 213 [6 Am. & Eng. 15]; *Snow v. Lake Shore & M. S. R. Co.* 121 U. S. 630 [17 Am. & Eng. 76].

A patentee cannot find infringement by functions, unless he is the originator of the device or art.

Ashcroft v. Boston & L. R. Co. 97 U. S. 189 [12 Am. & Eng. 1]; *Matthews v. Boston Machine Co.* 105 U. S. 59 [13 Am. & Eng. 501]; *Bridge v. Excelsior Mfg. Co.* 105 U. S. 618 [14 Am. & Eng. 112]; *Neacy v. Allis*, 13 Fed. Rep. 874; *McCormick v. Talcott*, 20 How. 402 [6 Am. & Eng. 410].

The reported cases which are founded on this patent, are: *Schillinger v. Gunther*, 14 Blatch. 152, 2 Ban. & Ard. 544; S. C. 15 Blatch. 303, 3 Ban. & Ard. 491; *Schillinger v. Greenway Brewing Co.* 17 Fed. Rep. 244; *Cal. A. S. Paving Co. v. Perine*, 8 Fed. Rep. 821; *Cal. A. S. Paving Co. v. Freeborn*, 8 Sawy. 443, 17 Fed. Rep. 735; *Cal. A. S. Paving Co. v. Molitor*, 113 U. S. 609 [15 Am. & Eng. 521]; *Cal. A. S. Paving Co. v. Schalicke*, 119 U. S. 401 [16 Am. & Eng. 469]; *Schillinger v. Cranford*, 2 Cent. Rep. 680, 4 Mackey, 450; 37 Pat. Off. Gaz. 1349; *Schillinger v. Middleton*, 31 Fed. Rep. 736.

The burden of proof on the question of infringement is on the appellees.

Cammeyer v. Newton, 94 U. S. 231 [11 Am. & Eng. 98]; *Bates v. Coe*, 98 U. S. 49 [12 Am. & Eng. 150].

Argument of counsel.

Giving to the appellees appellants' entire profits was wrong.

Garretson v. Clark, 111 U. S. 120 [15 Am. & Eng. 194]; *Black v. Thorne*, 111 U. S. 122 [15 Am. & Eng. 201].

Evidence of the state of the art is admissible.

Brown v. Piper, 91 U. S. 41 [10 Am. & Eng. 272]; *Vance v. Campbell*, 1 Black, 427 [7 Am. & Eng. 117]; *Agawam Woolen Co. v. Jordan*, 7 Wall. 583 [8 Am. & Eng. 24]; *Blanchard v. Putnam*, 8 Wall. 420 [8 Am. & Eng. 107]; *Slawson v. Grand St. P. P. & F. R. Co.* 107 U. S. 649 [14 Am. & Eng. 475].

Courts take judicial notice of common knowledge and use.

McClosky v. Du Bois, 20 Blatch. 7, 20 Pat. Off. Gaz. 1086; *Terhune v. Phillips*, 99 U. S. 592 [12 Am. & Eng. 270]; *Brown v. Piper*, 91 U. S. 43 [10 Am. & Eng. 272]; *Gill v. Wells*, 22 Wall. 29 [9 Am. & Eng. 471].

Under appellees' contention, their patent comes clearly within the reasons and findings of this Court in the pavement case of *Guidet v. Brooklyn*, 105 U. S. 550 [14 Am. & Eng. 38]; *Phillips v. Detroit*, 111 U. S. 604 [15 Am. & Eng. 269].

Disclaimers forbids any subsequent enlargement.

New York Belting & Packing Co. v. Sibley, 15 Fed. Rep. 386; *Tyler v. Welch*, 8 Fed. Rep. 636; *White v. E. P. Gleason Mfg. Co.* 17 Fed. Rep. 159; *Dunbar v. Myers*, 94 U. S. 193 [11 Am. & Eng. 59]; *Atlantic Giant Powder Co. v. Hulings*, 21 Fed. Rep. 519; *Union Met. Cartridge Co. v. U. S. Cartridge Co.* 112 U. S. 642 [15 Am. & Eng. 364].

The patent is only carrying forward an old idea in a slightly different way, without better results.

Smith v. Nichols, 21 Wall. 112 [9 Am. & Eng. 425]; *Roberts v. Ryer*, 91 U. S. 159 [10 Am. & Eng. 302]; *Hollister v. Benedict*, 113 U. S. 59 [15 Am. & Eng. 417].

The plaintiff cannot recover the profits of the manufacture, sale or use of anything but the patented improvement.

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Mowry v. Whitney, 14 Wall. 620 [9 Am. & Eng. 1] *Philp v. Nock*, 17 Wall. 460 [9 Am. & Eng. 84]; *Goulds Mfg. Co. v. Cowing*, 12 Blatch. 243, 14 Blatch. 315; *Black v. Munson*, 14 Blatch. 265; *Buerk v. Imhaeuser*, 14 Blatch. 19; *Blake v. Robertson*, 94 U. S. 728 [11 Am. & Eng. 266]; *Garretson v. Clark*, 15 Blatch. 70.

Mr. GEO. W. HEY, for appellees:

It is clearly proven in this case that defendant Hurlbut has infringed the Schillinger patent.

Grant v. Raymond, 6 Pet. 218 [4 Am. & Eng. 245]; *Ames v. Howard*, 1 Sumn. 482-485; *Blanchard v. Sprague*, 3 Sumn. 535-539; *Davoll v. Brown*, 1 Wood & M. 53, 57; *Parker v. Haworth*, 4 McLean, 372; *Le Roy v. Tatham*, 14 How. 181 [7 Am. & Eng. 29].

The proper measure of damages is the net profit actually realized by the defendant from the making and sale of his concrete flag pavements.

Tilghman v. Proctor, 125 U. S. 136 [17 Am. & Eng. 552]; *Brady v. Atlantic Works*, 3 Ban. & Ard. 577, 15 Pat. Off. Gaz. 965; *Cox v. Griggs*, 2 Fish. Pat. Cas. 174; *Hays v. Sulsor*, 1 Fish. Pat. Cas. 532; 1 Bond, 279; *Bell v. Daniels*, 1 Bond, 212, 1 Fish. Pat. Cas. 372; *Wayne v. Holmes*, 1 Bond, 27, 2 Fish. Pat. Cas. 20; *Serrell v. Collins*, 1 Fish. Pat. Cas. 289; *Curtis*, Pat. § 338; *Lowell v. Lewis*, 1 Mason, 184; *Whittemore v. Cutter*, 1 Gall. 429.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought in the Circuit Court of the United States for the Northern District of Illinois, by John J. Schillinger and Elmer J. Salisbury against J. B. Hurlbut, founded on the alleged infringement of reissued letters patent, No. 4364, granted to John J. Schillinger, May 2, 1871, for an "improvement in concrete pavements," on the surrender of original letters patent, No. 105,559, granted

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to said Schillinger, July 19, 1870. The defences set up in the answer are the invalidity of the reissue, want of utility in the invention, want of novelty, and non-infringement.

The bill was filed in October, 1882. Salisbury having died, the suit was, so far as his interest was concerned, revived in March, 1884, in the name of Olive G. Salisbury, as administratrix. The interest of Salisbury was that he was the exclusive licensee under the reissued patent for the State of Illinois. Issue having been joined, proofs were taken on both sides, and on the 15th of May, 1884, the Court entered an interlocutory decree, adjudging that the reissued patent was valid, that the defendant had infringed it, and that the administratrix of Salisbury recover profits and damages from the 26th of August, 1882, the date of the license to Salisbury. The decree also ordered a reference to a master to take an account of the profits and the damages.

The master took proofs, and on the 30th of September, 1884, filed his report, to the effect that between August 26, 1882, and May 20, 1884, the defendant had laid 70,909 feet of pavement by the use of the plaintiff's patent, for which he should be held to account; and that the plaintiffs had shown an established license fee of five cents a square foot; or \$3545.45, as damages, which amount he reported. He also reported that the defendant's profits had amounted to four cents a square foot. The defendant excepted to this report, and, on a hearing, the Court held that the evidence did not establish a fixed license fee as a royalty, and that the proper amount of recovery was the defendant's profits, at the rate of four cents a square foot, or \$2836.86; and it entered a final decree on the 16th of November, 1885, for that amount. The defendant has appealed from that decree.

The specifications, claims and drawings of the original and the reissued patents are as follows, the specifications and claims being placed in parallel columns, the parts of each which are not found in the other being in italic, and the drawings of the original and the reissue being the same:

JOHN J. SCHILLINGER.

Improvement in Concrete-Pavements.

No. 4,364.

Reissued May 2, 1871.

Fig. 1.

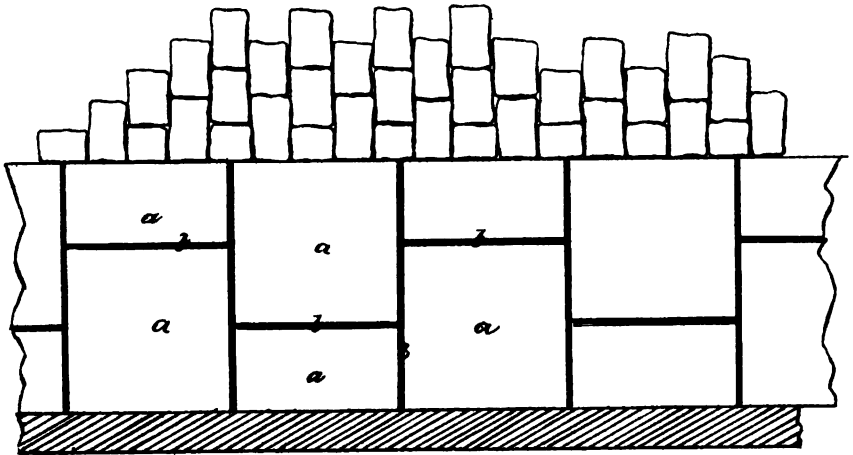
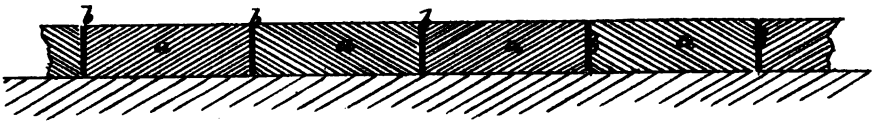


Fig. 2.



Witnesses:

E. F. Kastenhuber
C. W. Walters.

Inventor.

John J. Schillinger



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Original.

"Be it known that I, John J. Schillinger, of the City, County, and State of New York, have invented a new and useful improvement in concrete pavements; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

"Fig. 1 represents my pavement *in plan view*. Fig. 2 is a vertical section of the pavement.

"This invention relates to pavements for sidewalks and other purposes, and consists in combining, with the joints of concrete pavements, strips of tar-paper or equivalent material arranged between the several blocks in such a manner as to produce a suitable tight joint and yet allow the blocks to be raised separately without affecting or injuring the blocks adjacent thereto.

"In carrying out my inven-

Reissue.

"Be it known that I, John J. Schillinger, of the City, County, and State of New York, have invented a new and useful improvement in concrete pavements; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

"Fig. 1 represents a plan of my pavement. Fig. 2 is a vertical section of the same. Similar letters indicate corresponding parts.

"This invention relates to a concrete pavement which is laid in sections, so that each section can be taken up and relaid without disturbing the adjoining sections. With the joints of this sectional concrete pavement are combined strips of tar-paper or equivalent material arranged between the several blocks or sections in such a manner as to produce a suitable tight joint and yet allow the blocks to be raised separately without affecting the blocks adjacent thereto.

"In carrying out my inven-

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tion I form the concrete by mixing cement with sand and gravel or other suitable *material* to form a plastic *compound*, using about the following proportions: One part, by measure, of cement; one part, by measure, of sand, and from three to six parts, by measure, of gravel, *with* sufficient water to *render* the mixture plastic; but I do not confine myself to any *definite* proportions or *materials* for making the concrete composition. While the mass is plastic I lay or spread the same *on* the foundation or bed of the pavement, either in *molds* or between movable joists of the proper thickness, so as to form the edges of the concrete blocks *a a*, *one block being formed after the other*. When the first block has set I remove the joists or partitions from between it and the next block to be formed, and then I form the second block, and so on, each succeeding block being formed after the adjacent blocks have set, [and since the concrete in setting shrinks, the second block when set does not adhere to the first, and so on], and when the pavement is completed each block can be taken up independent of the adjoining blocks. Between the joints

130 U. S. 460-461.

tion I form the concrete by mixing cement with sand and gravel or other suitable *materials* to form a *suitable* plastic composition, using about the following proportions: One part, by measure, of cement; one part, by measure, of sand, and from three to six parts, by measure, of gravel, *using* sufficient water to *make* the mixture plastic; but I do not confine myself to any proportions for making the concrete composition. While the mass is plastic I lay or spread the same *upon* the foundation or bed of the pavement, either in *molds* or between movable joists of the proper thickness, so as to form the edges of the concrete blocks *a a*, &c. When the block *a* has been formed I take strips of tar-paper *b*, of a width equal or almost equal to the height of the block, and place them up against the edges of the block in such a manner that they form the joints between such block and the adjacent blocks. After completing one block *a*, I place the tar-paper *b* along the edge where the next block is to be formed, and I put the plastic composition for such next block up against the tar-paper joint and proceed with the formation of

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the new block until it is completed. In this manner I proceed *in making all the blocks* until the pavement is completed, interposing tar-paper between their several joints as described. The paper constitutes a tight water-proof joint, but it allows the several blocks to heave separately from the effects of frost, or to be raised or removed separately, whenever occasion may arise, without injury to the adjacent blocks. The paper *does not adhere* when placed against the *edge of the fully formed block*, and therefore the joints are always free between the several blocks, although *adherence may take place between the paper and the plastic edges of the blocks which are formed after the paper joints are set up in place.*

of the adjacent blocks are placed strips b of tar-paper, or other suitable material in the following manner: After completing one block, *a*, I place the tar-paper *b* along the edge where the next block is to be formed, and I put the plastic composition for such next block up against the tar-paper joint and proceed with the formation of the new block until it is completed. In this manner I proceed until the pavement is completed, interposing tar-paper between the several joints, as described. The paper constitutes a tight, water-proof joint, but it allows the several blocks to heave separately from the effects of frost, or to be raised or removed separately, whenever occasion may arise, without injury to the adjacent blocks. The paper when placed against the block *first formed does not adhere thereto*, and therefore the joints are always free between the several blocks, although *the paper may adhere to the edges of the block or blocks formed after the same has been set up in its place between the joints.* [In such cases, however, where cheapness is an object, the tar-paper may be omitted and the blocks form-

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ed without interposing anything between their joints, as previously described. In this latter case the joints soon fill up with sand or dust, and the pavement is rendered sufficiently tight for many purposes, while the blocks are detached from each other and can be taken up and relaid, each independent of the adjoining blocks].

"What I claim as new and desire to secure by letters patent, is—

"1. *A concrete pavement laid in detached blocks or sections, substantially in the manner shown and described.*

"2. *The arrangement of tarpaper or its equivalent between adjoining blocks of concrete, substantially as and for the purpose set forth.*

"What I claim as new and desire to secure by letters patent is—

"The arrangement of tarpaper or its equivalent between adjoining blocks of concrete, substantially as and for the purpose *described.*"

On the 1st of March, 1875, Schillinger filed in the Patent Office the following disclaimer: "To the Commissioner of Patents: Your petitioner, John J. Schillinger, of the City and County and State of New York, represents that letters patent of the United States, reissue No. 4364, bearing date May 2, 1871, were granted to him for an improvement in concrete pavements. That he has reason to believe that, through inadvertence, accident or mistake, the specification and claim of said letters patent are too broad, including that of which your petitioner was not the first inventor, and he therefore hereby enters his disclaimer to the following words: 'And since the concrete in setting shrinks, the second block

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when set does not adhere to the first, and so on,' and which occurs near the middle part of the said specification, and to the following words near the end of the specification: 'In such cases, however, where cheapness is an object, the tarpaper may be omitted and the blocks formed without interposing anything between their joints, as previously described. In this latter case the joints soon fill up with sand or dust, and the pavement is rendered sufficiently tight for many purposes, while the blocks are detached from each other and can be taken up and relaid, each independent of the adjoining blocks.' Your petitioner hereby disclaims the forming of blocks from plastic material without interposing anything between their joints while in the process of formation. Your petitioner owns the said patent and the whole interest therein, except in the following places or territory, for which he has granted exclusive licenses under royalty, or sold rights under said patent, to wit: the Counties of Kings, Queens and Richmond, New York State; Hartford County, Connecticut; the District of Columbia; the States of New Jersey, Georgia, Maryland, Louisiana, Texas, Ohio, Michigan, Missouri, and Illinois, which above named States and places comprise all the territory for which he has sold or granted exclusive licenses or rights in or under said patent, to the best of his recollection, knowledge and belief."

The words specifically disclaimed by the disclaimer are embraced in brackets in the copy of the specification of the reissue above set forth.

The Schillinger patent has been before several of the Circuit Courts of the United States, and also before this Court for adjudication.

In the Circuit Court for the Southern District of New York, before Judge SHIPMAN, in February, 1877, in *Schillinger v. Gunther*, 14 Blatch. 152, and 2 Ban. & Ard. 544, and 11 Pat. Off. Gaz. 831; and in the same case, before Judge BLATCHFORD, in August, 1879, 17 Blatch. 66, and 4 Ban. & Ard. 479, and 16 Pat. Off. Gaz. 905; in the Circuit Court for the Dis-

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trict of California, before Judge SAWYER, in May, 1881, in *California Artificial Stone Paving Co. v. Molitor*, and *The Same v. Perine*, 7 Sawy. 190, and 8 Fed. Rep. 821, and 20 Pat. Off. Gaz. 813; in the Circuit Court for the Northern District of New York, before Judge BLATCHFORD, in July, 1883, in *Schillinger v. Greenway Brewing Co.* 21 Blatch. 383, and 17 Fed. Rep. 244, and 24 Pat. Off. Gaz. 495; and in the Circuit Court for the Southern District of Ohio, before Judge SAGE, in June, 1884, in *Kuhl v. Mueller*, 21 Fed. Rep. 510, and 28 Pat. Off. Gaz. 541, the patent was sustained. In the Supreme Court of the District of Columbia, in general term, in July, 1885, in *Schillinger v. Cranford*, 2 Cent. Rep. 680, 4 Mackey, 450, and 37 Pat. Off. Gaz. 1349, it was held void, on the question of novelty. It was also interpreted by Judge SAWYER, in the Circuit Court for the District of California, in *California Artificial Stone Paving Co. v. Freeborn*, in January, 1883, 8 Sawy. 443, and 17 Fed. Rep. 785, and by Judge DEADY, in the Circuit Court for the District of Oregon, in August, 1887, in *Schillinger v. Middleton*, 31 Fed. Rep. 736.

The patent was before this Court in *California A. S. Paving Co. v. Molitor*, 113 U. S. 609 [15 Am. & Eng. 521], in March, 1885, but only on a question of contempt, and in *California A. S. Paving Co. v. Schalicke*, 119 U. S. 401 [16 Am. & Eng. 469], in December, 1886.

We are of opinion that the proper construction of the re-issued patent is, that the invention consists in dividing the pavement into blocks, so that one block can be removed and repaired without injury to the rest of the pavement, the division being effected by either a permanent or a temporary interposition of something between the blocks. Concrete pavement had been laid before in sections, without being divided into blocks. The effect of the disclaimer was to leave the patent to be one for a pavement wherein the blocks are formed by interposing some separating material between them. To limit the patent to the permanent interposition of a material equivalent to tar-paper, would limit the actual in-

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vention. The use of a bottom layer of coarse cement, and placing on it a course of fine cement, and dividing the upper course into blocks by a trowel run partially or wholly through the upper course while it is plastic, in a line coincident with the joints between the sections in the lower layer, accomplishes the substantial results of Schillinger's invention, in substantially the way devised by him, and is within the patent as it stands after the disclaimer. The disclaimer took out of the first claim of the reissue only so much thereof as claimed a concrete pavement made of the plastic material laid in detached blocks, without interposing anything in the joints in the process of formation, leaving that claim to be one for such a pavement laid in detached blocks, when free joints are made between the blocks by interposing permanently or temporarily between them, in the process of their formation, tar-paper or its equivalent.

In California *A. S. Paving Co. v. Schalicke*, *supra*, it was said, p. 406: "The evidence in the present case shows that the defendant, during the process of making his pavement, marked off its surface into squares. But the question is whether he, to any extent, divided it into blocks, so that the line of cracking was controlled, and induced to follow the joints of the divisions, rather than the body of the block, and so that a block could be taken out, and a new one put in its place without disturbing or injuring an adjoining block. The specification makes it essential that the pavement shall be so laid in sections 'that each section can be taken up and relaid without disturbing the adjoining sections.' Again, it says that the joint between the blocks 'allows the several blocks to heave separately, from the effects of frost, or to be raised or removed separately, whenever occasion may arise, without injury to the adjacent blocks.' This is essential; and, in all the cases where infringement has been held to have been established, there have been blocks substantially separate, made so by the permanent or temporary interposition of a separating medium or a cutting instrument, so

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that one block could upheave or be removed without disturbing the adjoining blocks. The patentee, in the disclaimer, expressly disclaimed 'the forming of blocks from plastic material without interposing anything between their joints while in the process of formation.' It appears that the defendant laid his pavement in strips from the curb of the sidewalk inward to the fence, in one mass, and then marked the strip crosswise with a blunt marker, which is made an exhibit, to the depth of about one-sixteenth of an inch. But it is not shown that this produced any such division into blocks as the patent speaks of, even in degree. There were no blocks produced, and, of course, there was nothing interposed between blocks. The mass underneath was solid, in both layers, laterally. So far as appears, what the defendant did was just what the patentee disclaimed. The marking was only for ornamentation, and produced no free joints between blocks, and the evidence as to the condition of the defendant's pavements after they were laid shows that they did not have the characteristic features above mentioned as belonging to the patented pavement."

In its decision in the present case, which was made before that in the Schalicke case, the Court said that the case was in no way different, so far as infringement was concerned, from the cases against Perine and Molitor and the case against the Greenway Brewing Company.

In the Schalicke case it was said, in the opinion of this Court, in regard to the pavement in the Molitor case: "The defendant's pavement was made by cutting a lower course into sections with a trowel, to a greater or less depth, according to the character of the material, making a joint, and doing the same with an upper course, the upper joint being directly over the lower joint. Into the open joint, in each case, was loosely put some of the partially set material from the top of the laid course, answering the purpose of tarpaper. A blunt and rounded joint-marker, which was said to be $\frac{1}{16}$ or $\frac{1}{8}$ of an inch in depth, was then run over the line

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of the joints, marking off the block. The pavement was weaker along the line of the joint than in any other place. This was held to be an infringement." It was also there said that, in the Greenway Brewing Company case, "it was held that the 2d claim of the reissue was infringed by a concrete pavement which had an open cut made by a trowel entirely through two courses of material, the line of cut in the upper course being directly over the line of cut in the lower course, and that the interposition of the trowel, though temporary, was an equivalent for the tar-paper, even though the joint was left open after the trowel was removed, and was not made tight."

In the present case, the only pavement for which the defendant was held liable was what was called in his account or statement before the master "concrete flag pavement," the manner of constructing which is thus described by Mr. Perkins, a witness for the plaintiff: "First, joists are placed seven to eight feet apart, in front of the property where the work is to be laid. First, one stone is formed by placing a joist across between the others at right angles, generally at about four feet from the place of beginning. In this space a mortar, composed of sand, gravel and cement, is put and thoroughly tamped, so that the coarse material will be from three to four inches in thickness, leaving about one-half inch on top for a mortar composed of sand and cement, which is troweled off and made even with the top surface of the joints. Then the short joist that is put in at right angles, as before described, is taken up and placed about the same distance as before, and again filled in. The finer material in the coarse concrete is generally worked next to the joist, so as to make a good, smooth, strong edge. When the top stuff is put on this last stone, and finished over on top with a trowel, the joint between the two stones being marked on the outer joist, a trowel is drawn through the top stuff, to make a joint straight, to correspond with the joint below." The evidence is satisfactory, that the trowel was used to cut through or

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into the top layer to an extent sufficient to make such a separation of the top layer into blocks, at a line corresponding with the joint below between the sections of the first layer, as to control the cracking of the top layer, by dividing it substantially into separate blocks. This division depends on the depth of the cut. The defendant contends that the object and effect of the marking with the trowel was only to give to the pavement the appearance of flagging; but the evidence is entirely clear that the cut was made sufficiently deep, in proportion to the thickness of the upper layer, to make such a separation of the upper layer into blocks as would compel any tendency to crack to follow the line of the cut made by the trowel, and not run off into the body of the layer; and that thus the object of Schillinger's invention was attained. The defendant is, by the report of the master and the decree of the Circuit Court, made liable only for concrete flagging so laid and cut as to produce such result. The defendant was particular to have the cut in the upper layer made with the trowel directly over the line between the two sections of the lower layer, and it is shown that the upper layer of his pavement thus made would come up in separate blocks. He made his lower course of sand, gravel and cement, mixed in the proportion of one part of cement to six or seven of sand and gravel, while he made his upper course of one-half sand and one-half cement, made plastic with water. The lower course of his flagging was composed of material in which there was only one part of cement or adhesive substance to six or seven parts of non-adhesive substance, and there was but a slight tendency to adhere between the faces of the two sections in the lower course; while as the upper layer was composed one-half of adhesive substance, the tendency was for its material to adhere strongly. Therefore, a cut in the upper course, coincident with the joint below, would permit any action of the settling of the lower course, through frost or upheaval, to extend to the top of the upper course through a joint cut in that course, of sufficient

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depth to prevent the tendency of the upper course to crack in its body rather than in the line of the cut.

We are, therefore, of opinion that the first claim of the reissue, as it stands after the disclaimer, is infringed, because the defendant's pavement is a concrete pavement, laid in detached blocks or sections, substantially in the manner shown and described in the specification of the reissue, the detached blocks in the upper course being the equivalent of the detached blocks or sections of the Schillinger pavement; and that the second claim of the reissue is infringed, because the temporary use of the trowel or cutting instrument, to divide the upper course into blocks, is the equivalent of the tarpaper of the Schillinger patent, the cutting making a division which controls the cracking, and facilitates the taking up and relaying of the blocks or sections in the upper course "without disturbing the adjoining sections," and the trowel being interposed to effect its object during the process of forming the pavement on the spot where it is to remain.

The invention of Schillinger was a very valuable one. The evidence is that it entirely superseded the prior practice of laying concrete pavements in a continuous, adhering mass.

The defendant introduced in evidence, on the question of novelty, the following patents:

English patent to Claridge, No. 7489, of 1837; English patent to D'Harcourt, No. 7991, of 1839; United States patent to Russ, No. 5475, of 1848; English patent to Chesneau, No. 850, of 1852; English patent to Coignet, No. 2659, of 1855; English patent to De la Haichois, No. 771, of 1856, and United States patent to Van Camp, No. 93,142, of July 27, 1869. All of these patents, except the Van Camp patent, were introduced in evidence on the part of the defence in the case against the Greenway Brewing Company, and it was held in that case that none of them anticipated the Schillinger invention. A copy of the record in that case, embracing the pleadings, and the evidence and patents

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put in by the defendant in it, on the question of novelty, forms part of the record in the present case.

An examination of the patents put in evidence by the defendant, in connection with the testimony in regard to them, shows that the Claridge pavement was not a concrete pavement, and was not formed in detachable blocks, but was a continuous asphalt pavement; that the D'Harcourt pavement was not a concrete pavement laid in detached blocks or sections, nor could one section be removed without disturbing adjacent sections; that the Russ patent shows a concrete foundation for a stone pavement, the pavement proper being constructed of granite or syenite placed on top of the concrete foundation, such concrete foundation not being formed in detachable blocks, but only being provided at certain places with removable panels, consisting of frames filled with concrete, to be lifted out to give access to water pipes or for other purposes; that the Chesneau pavement was not a concrete pavement laid in detached sections or blocks, but was a continuous pavement, provided with panels to give access in certain places to gas and water pipes, the panels being made of sections set in frames, which were removably inserted in the surrounding pavement, and there was no arrangement of tar-paper or its equivalent between adjoining blocks of concrete, for the purpose set forth in the Schillinger patent; that the Coignet patent did not show a concrete pavement, made in detachable blocks after the manner of Schillinger's, and built on the ground where it was to remain; that the De la Haichois pavement was not a concrete pavement laid in detachable blocks or sections, or having the arrangement of tar-paper or its equivalent between adjoining blocks of concrete like that of Schillinger, and that the Van Camp patent showed only blocks formed in molds, and removable from the molds, or the pavement to be laid cemented in the molds, and it not being stated that the blocks should be formed on the spot where they were to remain, nor that they should be formed

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of cement and gravel or sand. It further appears that, in the Van Camp patent, when the blocks are made in molds, they are like bricks, or artificial stones, or wooden blocks, which are prepared and then brought to the place where they are to be laid and put down in the usual manner; and that when the blocks remain in the molds and are thus laid, they do not present a uniform wearing surface of concrete, or constitute a concrete pavement formed in detachable blocks by joints.

Other testimony as to prior public use was introduced in this case, taken from the record in the case of Schillinger v. Phillip Best Brewing Co., in the Circuit Court for the Eastern District of Wisconsin, which testimony was also introduced in the case against the Greenway Brewing Company, having been taken in November, 1882. In the decision in the latter case, it was correctly said of that testimony: "So far as it refers to prior use in Germany, not shown in a patent or printed publication, it was duly objected to in this case and must be excluded. As to the cement malt floor which Row laid in Baltimore twenty-five years ago, he shows that it was not made in sections detachable by free joints. The testimony of Botzler as to a prior malt floor laid by him in Chicago is too indefinite to amount to sufficient evidence to defeat a patent." So far as that testimony related to a pavement used in Germany, it was objected to at the time it was introduced in this case as incompetent. It was clearly inadmissible under Section 4923 of the Revised Statutes, because it did not show anything that had been patented or described in a printed publication.

We do not think that the reissued patent, as it stood after the filing of the disclaimer, was open to the objection that it was not for the same invention as that of the original patent. Whatever there was of objectionable matter inserted in the specification or the 1st claim of the reissue, when it was granted, was removed by the disclaimer. The reissue was granted within ten months after the original.

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The single claim of the original patent was repeated in the reissue as the 2d claim of the latter; and the 1st claim of the reissue, as it stood after the disclaimer, did not expand beyond the claim of the original what was claimed in the reissue.

As to the amount of the decree, we think the Court properly awarded the sum of 4 cents per square foot as the profits of the defendant, and that it was right to give to the plaintiff the entire profits made by the defendant by the laying by him of his concrete flagging, in view of the testimony in the case. It clearly appears that the defendant's concrete flagging derived its entire value from the use of the plaintiff's invention, and that if it had not been laid in that way it would not have laid at all.

In *Elizabeth v. Nicholson Pavement Co.* 97 U. S. 126 [11 Am. & Eng. 514], it is said that "When the entire profit of a business or undertaking results from the use of the invention, the patentee will be entitled to recover the entire profits if he elects that remedy." This language was quoted with approval in *Root v. Lake Shore and M. S. R. Co.* 105 U. S. 189 [13 Am. & Eng. 556]. As in the case of the Nicholson patent, so in the case of the Schillinger patent, the pavement was a complete combination in itself, differing from every other pavement, and the profit made by the defendant was a single profit derived from the construction of the pavement as an entirety. *Callaghan v. Myers*, 128 U. S. 617, 665, 666.

Within the decision in *Garretson v. Clark*, 111 U. S. 120 [15 Am. & Eng. 194], the proof in this case is satisfactory, that the entire value of the defendant's pavement, as a marketable article, was properly and legally attributable to the invention of Schillinger.

The decree of the Circuit Court is affirmed.

Notes and citations.

Notes :

5. Act 1836, § 15; Act 1870, § 62; **R. S. Sec. 4923.**

Prior foreign use:

Shaw v. Cooper, 7 Pet. 292 [4 Am. & Eng. 286].

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483].

Roemer v. Simon, 95 U. S. 214 [11 Am. & Eng. 348].

7. Allowance of entire profits: see also

Gould's Mfg. Co. v. Cowing, 105 U. S. 253 [14 Am. & Eng. 1].

Patent in suit:

Reissue No. 4364. J. J. Schillinger. May 2, 1871. Original No. 105,599. July 19, 1870. Concrete Pavement.

OTHER SUITS ON SAME PATENT:

Schillinger v. Gunther, 1877. 14 Blatch. 152; 2 Ban. & Ard. 544; 11 O. G. 831.

Schillinger v. Gunther, 1878. 15 Blatch. 303; 3 Ban. & Ard. 491; 14 O. G. 713.

Schillinger v. Gunther, 1879. 17 Blatch. 66; 4 Ban. & Ard. 479; 16 O. G. 905.

California Artificial Stone Paving Co. v. Perine, 1881. 7 Sawy. 190; 8 Fed. Rep. 831; 20 O. G. 813.

Schillinger v. Greenway Brewing Co., 1883. 17 Fed. Rep. 244; 21 Blatch. 383; 24 O. G. 495.

California Artificial Stone Paving Co. v. Freeborn, 1883. 8 Sawy. 443; 17 Fed. Rep. 735.

Kuhl v. Mueller, 1884. 21 Fed. Rep. 510; 28 O. G. 541.

Notes and citations.

California Artificial Stone Paving Co. v. Molitor, 1884. 113 U. S. 609 [15 Am. & Eng. 521].

California Artificial Stone Paving Co. v. Schalicke, 1886. 119
U. S. 401 [16 Am. & Eng. 469].

Cited :

IN TEXT BOOKS:

Walker on Patents. 2d ed. 1889. p. 527.

Robinson on Patents, 1890. §§ 1063, 1142, 1148.

Argument of counsel.

GEORGE M. PETERS, APPELLANT, v. THE ACTIVE
MANUFACTURING COMPANY.*

130 U. S. 626-629. October Term, 1888.

[Bk. 32, L. ed. 1057; 47 O. G. 1219.]

Submitted April 16, 1889. Decided May 13, 1889.

Particular patent wanting in invention.

1. Letters Patent, No. 281,553, granted July 17, 1883, to George M. Peters, for an improvement in Dies for making Dash-Frames for Carriages, construed in view of the fact that it was old to use channel irons in making dash-frames, to weld channeled iron to flat or oval bars of iron, and to use dies for swaging or welding together two pieces of iron, and *held* that all that remained to be done in the present case was to adapt the form of the dies to the shape desired in the article to be acted upon by them; *held* further that there was no patentable invention in securing such result of welding or swaging, if there be no patentable invention in the construction and use of the dies to produce a given shape in the article acted on by them, which was also well-known.

Appeal from a decree of the Circuit Court of the United States for the Southern District of Ohio, that the patent, No. 281,553, granted to George M. Peters for an improvement in dies for making dash frames, is void, and dismissing the action for its infringement.

The facts are stated in the opinion.

Mr. WM. HUBBELL FISHER, for appellant :

The invention does not consist in a mere die, nor in a die to make an article of a given shape, but is for a pair of dies adapted to *swage* as well as weld the bars together. It enables not only the lap welding, preserving the channel form, but the additional feature of rolling, moving, or swaging the

* See Explanation of Notes, page III.

Argument of counsel.

hot iron, pressing it to the corner, compacting it, and enabling a thin channel iron to be used with a thick oval bar, and at the same time secure great strength at the corner where they join. This additional feature is new as an element in the combination.

The presumption of the novelty of the invention of the 2d claim, evidenced by the grant of the patent, is now here rebutted, and therefore, at least so far as this case is concerned, must stand.

Bearing in mind that the 2d claim of the Peters patent is for the feature of the gradually deepening depression of the grooves toward the corner, so far as its novelty is concerned it is analogous with the case of *Klein v. Park*, 3 Ban. & Ard. 145, in which *McKENNAN*, Cir. J., said: "The complainant's patent consists of two claims. * * * * The second is for dies by which this method is in part effectuated. * * * *

The original and distinguishing merit of the patentee's invention consists in supplying *dies* of novel construction and form, and so adapted to forming the eyes of picks by a new method, and in combining with the old steps in forming the eyes of picks a new element, to wit, drawing them down on a mandrel between rolling dies which completely encompass the walls of the eye. * * * * Under the proofs in this case this last step in the manufacture is new, and therefore impresses upon the *whole* method the character of *novelty*."

The complainant's invention gave an added function to a welding die, *i. e.*, swaging the metal as well as welding it, and without this the swaging would have to be performed by a separate and extra machine, and in a subsequent operation.

Mr. ARTHUR STEM, for appellee:

It is evident from the testimony that the improvements supposed to have been originated by George M. Peters consisted in the substitution of channel iron for bar iron in the bottom rail, and that the change of dies from the plain

Opinion of the Court.

groove to the tongued form was the obvious and necessary accompaniment of the change of form in the iron.

It was not new to make dash frames with channel iron. It was not new to weld channel iron to flat or oval bars of iron. It was not new to use dies or swages for welding two pieces of iron.

How then, by any stretch of the imagination, can there be held to be any invention in adapting the form of the dies to the shape to be obtained.

The fact that a die is used as a swage, that is, in welding two pieces of metal together, does not affect its nature or character.

If Mr. Peters had produced some new design or shape in metal-working, he might have been entitled to a patent for his novel design or shape, and might have enjoined defendant from making or selling dies for forging his new design, but the invention would be in the design—not in making the dies.

In this case, however, Mr. Peters' patent is not for the design in metal. That was old.

Three practical iron workers, witnesses for defendant, besides one witness for complainant, have testified that any die maker could have made defendant's dies without the slightest difficulty, and that there is no invention or discovery whatever involved.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought in the Circuit Court of the United States for the Southern District of Ohio, by George M. Peters against The Active Manufacturing Company, a corporation, founded on the alleged infringement of letters patent, No. 281,553, granted to said Peters, July 17, 1883, on an application filed December 7, 1880, for an "improvement in dies for making dash frames." A dash frame is made of metal, and is to be used in constructing a dash board for a carriage or other vehicle.

Opinion of the Court.

The defences set up in the answer are want of novelty, non-infringement, and also that the devices described and claimed in the patent were, before the alleged invention thereof by Peters, old and well-known in forging, welding, and other metal working, and that it required no invention to apply or adapt such devices to the old form and construction of dash frames. Issue was joined, proofs were taken, and the Circuit Court, in its decree, found that the patent was "void for want of invention," and dismissed the bill. We concur in that conclusion.

The specification of the patent says: "The principal object of my invention is to provide an efficient and useful method of welding the end bars of a metal dash frame to the bottom rail, and a method by which the bottom rail of the dash is strengthened at the weld and at the portion of said rail to which the dash foot is to be attached. Another object of my invention is to provide a means by which a recess is formed in the bottom rail, preparatory to punching said rail, to receive the bolt or other attachment which secures the dash foot to the bottom rail, the operation of forming the recess being performed at the same time that the end bar is welded to the bottom rail."

The entire operation is set forth in the specification, of welding the bars to the rail, of strengthening the bottom rail of the dash, and of forming a recess in the bottom rail at the same time that the welding is done, is described in the specification as effected by one and the same simultaneous action of two opposing dies, an upper die and a lower die, placed face to face. The dies are provided with channels or depressions, one *a*, to receive the end bar of the frame, and the other, *a'*, to receive the bottom rail, the channels, *a a'*, of one die coinciding with like channels in the other die, when the two dies are placed together. From the bottom of the depressions *a'* in the two dies rise tongues, *a²*, which, like the depressions *a*, coincide with each other when the two dies are placed together, the tongues preferably

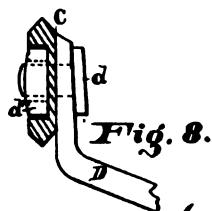
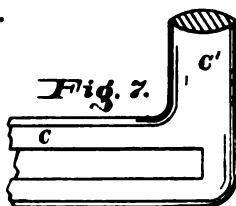
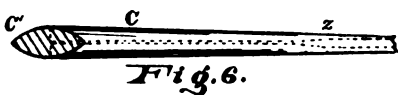
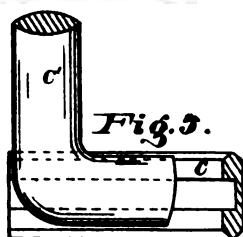
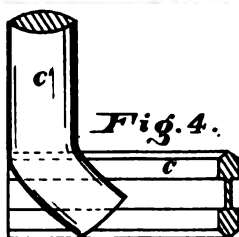
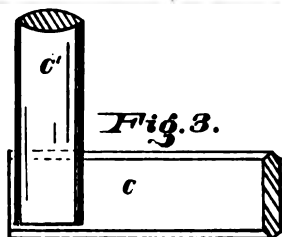
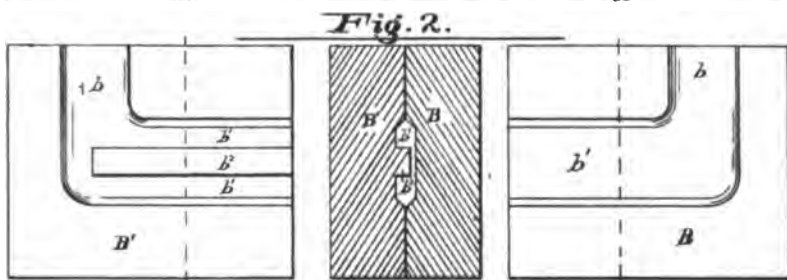
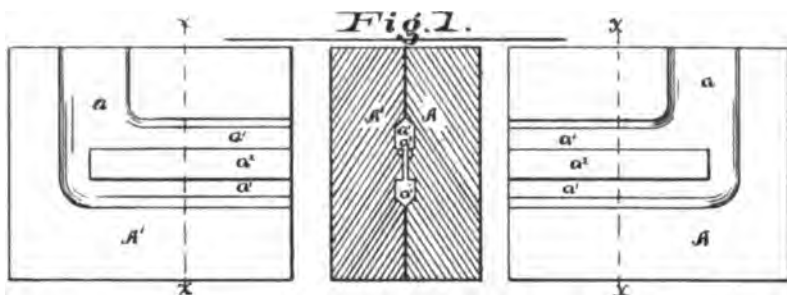
(No Model.)

G. M. PETERS.

DIE FOR MAKING DASH FRAMES.

No. 281,553.

Patented July 17, 1883.



Attest.
J. M. Stahl
E. R. Hill

Inventor.
George M. Peters
per Mr. Hubbell Fisher
Att'y

Opinion of the Court.

not rising quite to the face of the dies, so that, when the dies are placed together, a slight space is left between the two tongues. The specification also states that, preferably, the tongues a^2 are so formed that when the dies are placed together the tongues will approach closer to each other at that portion of themselves which forms that part of the web in the lower bar which is to be punched through to receive the bolt or other device by which the dash frame is connected to the foot or vehicle, than at any other point; in other words, the face of the tongues is inclined. The object of such a formation of the tongues is stated in the specification to be, to make the web left in the bottom rail thinner in that portion of such rail where perforations are to be made to receive the bolts which secure the dash foot to the frame, the web being in other portions preferably left of a uniform thickness; and one of the objects of thus making the web thin is to enable it to be more readily punched or otherwise perforated. By means of those dies a recess is formed in either side of the bottom rail, which recess corresponds with the tongues a^2 of the dies.

The four claims of the patent are as follows:

"1st. The combination, substantially as set forth, of the two dies having opposing angularly-joined depressions, a a' , and a tongue, a^2 , in the depression a' of either or both dies.

"2d. The combination, substantially as set forth, of the two dies having opposing angularly-joined depressions, a a' , and a tongue, a^2 , in the depression a^2 of either or both dies, the depressions a' deepening toward their junctions with the depressions a .

"3d. The combination, substantially as before set forth, of the dies having opposing angularly-joined depressions, a a' and a tongue, a^2 , in either or both of the said depressions, the face of said tongue or tongues being inclined.

"4th. The combination, substantially as before set forth, of the dies having opposing angularly-joined depressions, a a' , and a tongue, a^2 , in either or both of the said depressions,

Opinion of the Court.

the depressions *a'* deepening toward their junctions with the depressions *a*, and the face of the tongue or tongues being inclined."

The whole of this alleged invention is based upon the idea, old and well known, that a metallic die, whether of a cameo or intaglio form, will, when impressed upon a piece of heated or yielding metal, leave the latter of the converse form of the die, and that, when two dies are brought together over a piece of heated or yielding metal, the latter will take the shape of the space existing between the contours of the two dies. It is an inevitable consequence of the use of two dies in such a way, on two pieces of metal of proper size, heated to a welding heat, that swaging or welding will take place by the impact of the dies; that, when the dies have tongues and depressions in them, the metal acted on by such tongues and depressions will take the shape, in form and thickness, of the space left between the tongues or the depressions; and that a greater or less thickness of metal will be the result as the face of the tongues is more or less inclined. All this was old and common knowledge; and the whole of the operation resulting from such features is nothing but the well known action of two dies so shaped as to give the desired conformation to the article acted upon by them.

If it was desired to preserve a channel in the bottom rail of the dash frame, when the bottom rail was made of channeled iron, it was obvious, and not a matter of invention, that the die must be provided with a tongue to fit into the channel, to prevent the filling up of the channel by the forcing into it of metal by the action of the dies in welding the two pieces together. So, too, if it was desirable to make the welded parts thicker, and thus stronger, at the angle formed by the end bar and the bottom rail, it was obvious that the bottoms of the recesses in the dies must be deepened at such angle. That is all there is of the alleged invention of Peters.

Notes and citations.

It appears from the testimony that it was not new, at the time of such alleged invention, to use channeled iron in making dash frames; or new to weld channeled iron to flat or oval bars of iron; or new to use dies for swaging or welding together two pieces of iron. All that remained to be done in the present case, as in other cases, was to adapt the form of the dies to the shape desired in the article to be acted upon by them. Dies which act upon two pieces of metal which are capable of being welded to each other, and which are brought to a welding heat, necessarily will weld them together by the impact and action of the dies. There is no patentable invention in securing such result of welding or swaging, if there be no patentable invention in the construction and use of the dies to produce a given shape in the article acted upon by them.

The decree of the Circuit Court is affirmed.

130 U. S. 629.

Patent in suit :

No. 281,553. G. M. Peters. July 17, 1883. Dies for making Dash-Frames.

Cited :

IN SUPREME COURT IN :

Butler v. Steckel, November, 1890. 137 U. S. 21.

[illegible]

Argument of counsel.

EMILE CORNELY, APPELLANT, v. FREEMAN D.
MARCKWALD.*

131 U. S. 159-161. October Term, 1888.

[Bk. 33, L. ed. 117; 47 O. G. 1353.]

Argued April 26, 1889. Decided May 13, 1889.

Measure of damages. License fee. Evidence.

1. The payment of a sum in settlement of a claim for an alleged infringement of a patent cannot be taken as a standard to measure the value of the improvements patented in determining the damages sustained by the owner of the patent in other cases of infringement. (p. 579.)

[Citations in the opinion of the court:]

Rude v. Westcott, 130 U. S. 152. (p. 517 *ante*), p. 580.

Appeal from a decree of the Circuit Court of the United States for the Southern District of New York, in a suit for the infringement of letters patent, awarding to the plaintiff the profit made by defendant by the sale of infringing machines, and six cents damages.

Reported below, 23 Blatch. 163, 248.

The facts are stated in the opinion.

Mr. B. F. LEE, for appellant:

Gains and profits are the measure of damage in equity suits, except in cases where the injury sustained by the infringement is greater than the aggregate of what was made by the respondent.

Birdsall v. Coolidge, 93 U. S. 64 [10 Am. & Eng. 445]; Root v. Lake Shore & M. S. R. Co. 105 U. S. 189 [13 Am. & Eng. 556]; Goodyear Dental Vulcanite Co. v. Van Antwerp, 9 Pat. Off. Gaz. 497.

* See Explanation of Notes, page III.

Opinion of the Court.

An established royalty has been proved, within the rulings of this Court.

Clark v. Wooster, 119 U. S. 322 [16 Am. & Eng. 426].

The forced lowering of a complainant's prices by the infringement of a defendant is a basis of damages.

Yale Lock Mfg. Co. v. Sargent, 117 U. S. 536 [16 Am. & Eng. 275].

Where there have been substantial profits or damages, a substantial recovery will, if possible, be awarded.

Gould's Mfg. Co. v. Cowing, 105 U. S. 253 [14 Am. & Eng. 1]; Tilghman v. Proctor, 125 U. S. 136 [17 Am. & Eng. 552]; Callaghan v. Myers, 46 Pat. Off. Gaz. 565.

Mr. W. A. COURSEN, for appellee.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity brought by Emile Cornely against Freeman D. Marckwald, for the alleged infringement of letters patent, No. 83,910, granted to Cornely, as assignee of Antoine Bonnaz, the inventor, for an "improvement in sewing-machine for embroidering." There was an interlocutory decree for the plaintiff, establishing the validity of the patent and its infringement, and ordering a reference to a master to take an account of profits and damages.

The master reported that the defendant had made a profit of \$142.92, by the sale of twenty-six infringing machines; and that he was not a willful and deliberate infringer. As to damages, he reported that the plaintiff had instituted ten suits against other infringers on the patent, all of which, with one exception, were settled on the basis of \$50 for each infringing machine; that the plaintiff claimed that that afforded a proper measure of damages, on the basis of an established license fee; that there was a deviation in one instance because, as was stated by a witness, the case presented

121 U. S. 160.

Opinion of the Court.

"circumstances of exceptional hardship," but what the circumstances were did not appear; that it did not appear that licenses were issued to any one other than in the settlement of a suit, or that the plaintiff had adopted the sum of \$50 as a sum on the payment of which he was prepared to grant a license to any and all who wished to use the invention; and that the facts did not warrant the measurement of the damages by a fixed and established license fee.

The master also reported that the plaintiff claimed that he had been forced to lower his prices to compete with the defendant; that the evidence did not show that any reduction in prices by the plaintiff was solely due to the acts of the defendant, or to what extent it was due to such acts; that as to damage to the plaintiff from the loss of the sale of machines which the defendant had sold, it did not appear what profits the plaintiff made on his machines, or what it cost to make them; and that, therefore, such damage could not be computed and could not be reported as exceeding the nominal sum of six cents.

The plaintiff excepted to the report, and, on a hearing, the Court made a decree, (23 Blatchford, 163,) overruling the exceptions, and confirming the report, and awarding to the plaintiff the \$142.92, with interest and costs, except the costs on the accounting subsequent to the master's draft report and the costs on the exceptions, which two items of costs it awarded to the defendant. The plaintiff has appealed from so much of the decree as awards to him no damages beyond the six cents.

The Circuit Court, in its opinion, held, that evidence of payments made for infringements was incompetent to establish a price as for a fixed royalty; that, as to loss by the plaintiff from the diversion of sales, he had failed to give any evidence showing the cost of his machines, or what his profits would have been; that, as there was no basis for a computation of the loss of profits, the determination of the master was correct; and that his conclusion was proper as

Opinion of the Court.

to the alleged loss of the plaintiff by reason of the enforced reduction of his prices.

We concur in these views. As to the question of an established license fee, the case is governed by the recent decision of this Court in *Rude v. Westcott*, 130 U. S. 152 [p. 517 *ante*], where it was held that the payment of a sum in settlement of a claim for an alleged infringement of a patent "cannot be taken as a standard to measure the value of the improvements patented, in determining the damages sustained by the owner of the patent in other cases of infringement."

Decree affirmed.

131 U. S. 161.

Notes:

1. Payment in settlement of a claim not sufficient to establish a license fee:

Rude v. Westcott, 130 U. S. 152 [p. 517, *ante*.]

Patent in suit:

No. 83,910. A. Bonnaz. November 10, 1868. Sewing Machines for Embroidering.

OTHER SUITS ON SAME PATENT:

Cornely v. Hendricks, 1877. 12 O. G. 431.

Cornely v. Marckwald, 1883. 17 Fed. Rep. 83; 21 Blatch. 367; 24 O. G. 498; 16 Reporter, 102.

Notes and citations.

Cited:

IN SUPREME COURT IN:

Boesch v. Graff, March, 1890. 133 U. S. 697.

IN TEXT BOOKS:

Robinson on Patents, 1890. §§ 1057, 1061, 1152, 1157.

Syllabus.

CHARLES F. BRUSH AND THE BRUSH ELECTRIC
COMPANY, APPELLANTS, v. C. HARRISON
CONDIT, ET AL.*

133 U. S. 39-50. October Term, 1889.

[Bk. 33, L. ed. 252; 49 O. G. 1211.]

Affirming *Ibid*, 22 Blatch. 246; 20 Fed. Rep. 826.

Argued October 15, 16, 1889. Decided November 4, 1889.

Novelty. Perfected invention. Public use of mechanism necessarily concealed. Invention. Change in degree. Particular patent wanting in novelty.

1. Where there had been a public, well-known, practical use in ordinary work, with as much success as was reasonable to expect at that stage in the development of the mechanism belonging to electric arc lighting, of the exact invention which was subsequently made by the patentee, and although only one article like the patented invention was ever made, which was used two and one-half months only, and the invention was then taken from the lamp and was not afterward used with carbon pencils, *held* that it was a perfected invention and not a mere abandoned experiment. (p. 603.)
2. Where the mechanism of the anticipating device was such as to be necessarily concealed from view during its legitimate use and would not operate as perfectly as that of the patented invention, *held* that this was no concealment or use of the device in secret, and that it was a complete invention capable of producing the results sought to be accomplished, although not as thoroughly. (p. 604.)
3. That which infringes, if subsequent to the patent, is an anticipation if earlier. (p. 605.)
4. Held, that the improvement of a circular clamp for holding a carbon pencil in an electric lamp over a rectangular clamp to hold a square pencil was only a question of degree in the use of substantially the same means. (p. 605.)

* See Explanation of Notes, page III.

Statement of the case.

5. Reissued letters patent, No. 8718, Charles F. Brush, May 20, 1879, (original No. 203,411, May 7, 1878.) Electric lamps, *held* anticipated by a prior perfected invention, which if subsequent would have infringed the claims, and capable of producing the results sought, although not as thoroughly, and having its mechanism necessarily concealed from view during its legitimate use. (p. 605.)

[Citations in the opinion of the court:]

Coffin v. Ogden, 18 Wall. 120 [9 Am. & Eng. 125]. p. 604.

Reed v. Cutter, 1 Story, 590. p. 604.

Pickering v. McCullough, 104 U. S. 310 [13 Am. & Eng. 238]. p. 604.

Curtis on patents, §§ 89-92. p. 604.

Hall v. Macneale, 107 U. S. 90 [14 Am. & Eng. 291]. p. 604.

Appeal from a decree of the Circuit Court of the United States, for the Southern District of New York, in a suit in equity, dismissing the complaint with costs, for infringement of letters patent.

Opinion below, 22 Blatch. 246, and 20 Fed. Rep. 826.

The facts are stated in the opinion.

The specification and drawings of the reissued letters patent referred to in the opinion of the Court, are as follows:

CHARLES F. BRUSH, OF CLEVELAND, OHIO.

IMPROVEMENT IN ELECTRIC LAMPS.

Specification forming part of Letters Patent, No. 203,411, dated May 7, 1879; Reissue No. 8718, dated May 20, 1879; application filed April 14, 1879.

To all whom it may concern:

Be it known that I, CHARLES F. BRUSH, of Cleveland, in the County of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Electric Lamps; and I do hereby declare the following to be a full, clear, and

Statement of the case.

exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to electric light mechanism; and it consists in the following specified device, or its equivalent, whereby the carbon sticks usually employed are automatically adjusted, and kept in such position and relation to each other that a continuous and effective light shall be had without the necessity of any manual interference.

My invention likewise consists in an arrangement and construction, as will hereinafter appear, whereby the simple act of suspending a lamp in position will place it in circuit ready for operation.

In the drawings, Figure 1 is a view, in longitudinal section, of a device embodying my invention. Fig. 2 is a detached view, showing my ring-clamp and lifter as it appears while not in operation; Fig. 3, the same as it appears while in operation. Fig. 4 is a detached view, showing my improved carbon-holder. Fig. 5 comprehends a few of various modifications of which my invention is susceptible without a departure from the spirit and principles thereof; and Fig. 6 represents a form in which my invention may be applied to a lamp that moves both of its carbons.

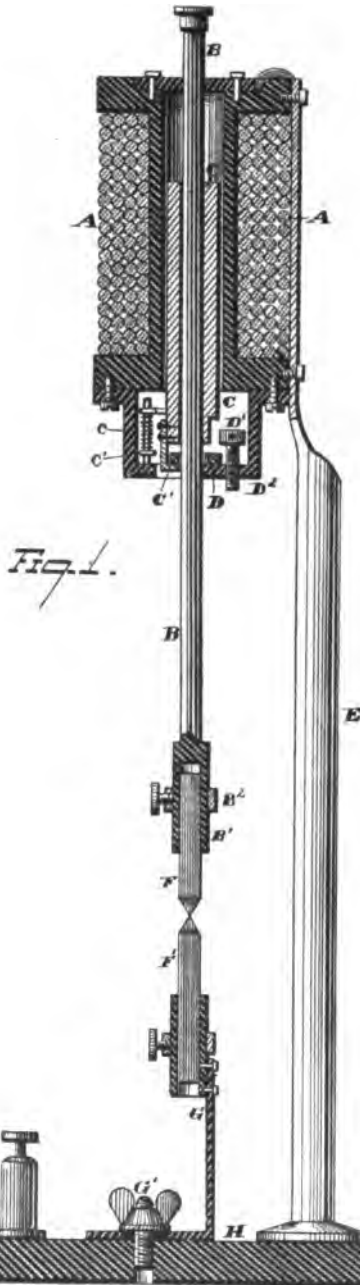
I will now describe the device shown in Fig. 1. A is a helix of insulated wire, said helix being in the form of a tube or hollow cylinder, resting upon an insulated plate, A', upheld by the metallic post or standard E. Within the cavity of the helix A is contained the iron core C and the rod B, which passes loosely through the core C. The core C is also made to move very freely within the cavity of the helix A, and it is partially supported within the cavity of the said helix by means of the springs c, whose tension is regulated by the set-screws c'. These springs push upward against ears attached to the core C.

D is a ring of metal, preferably such as will not be attracted

C. F. BRUSH.
Electric-Lamp.

No. 8,718.

Reissued May 20, 1879.



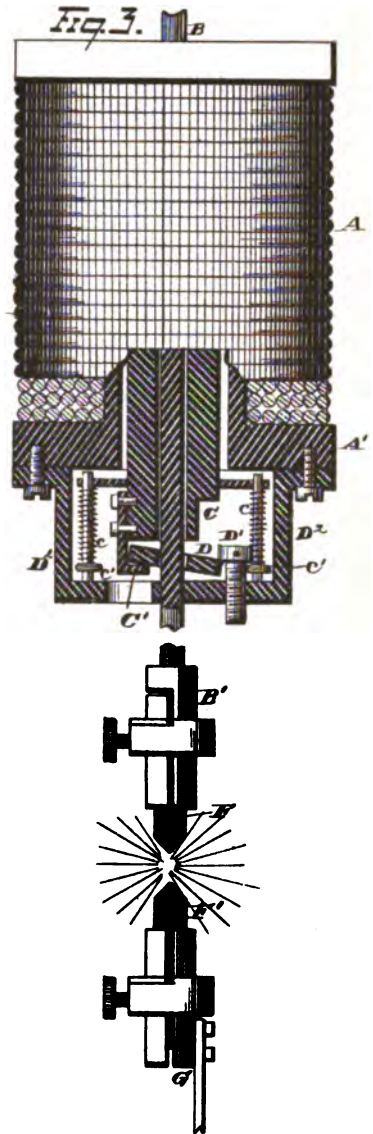
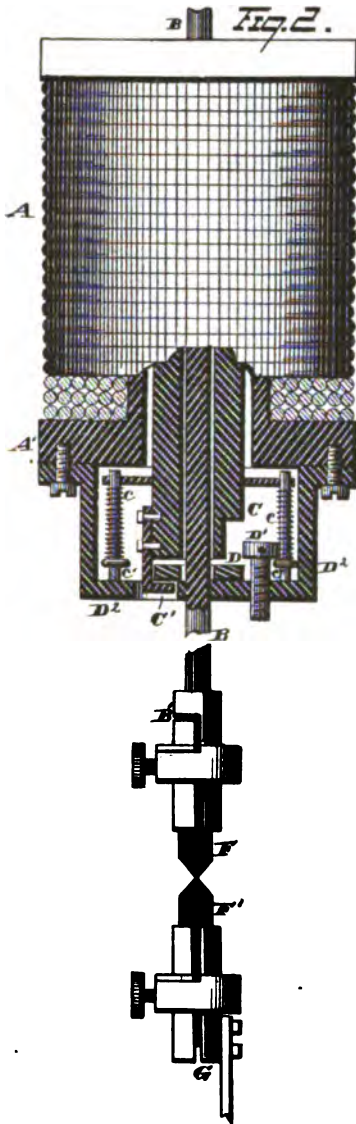
WITNESSES
E. J. Nottingham
A. M. Bright

INVENTOR
Charles Brush
By Dequett
Dequett
ATTORNEYS.

C. F. BRUSH.
Electric-Lamp.

No. 8,718.

Reissued May 20, 1879.

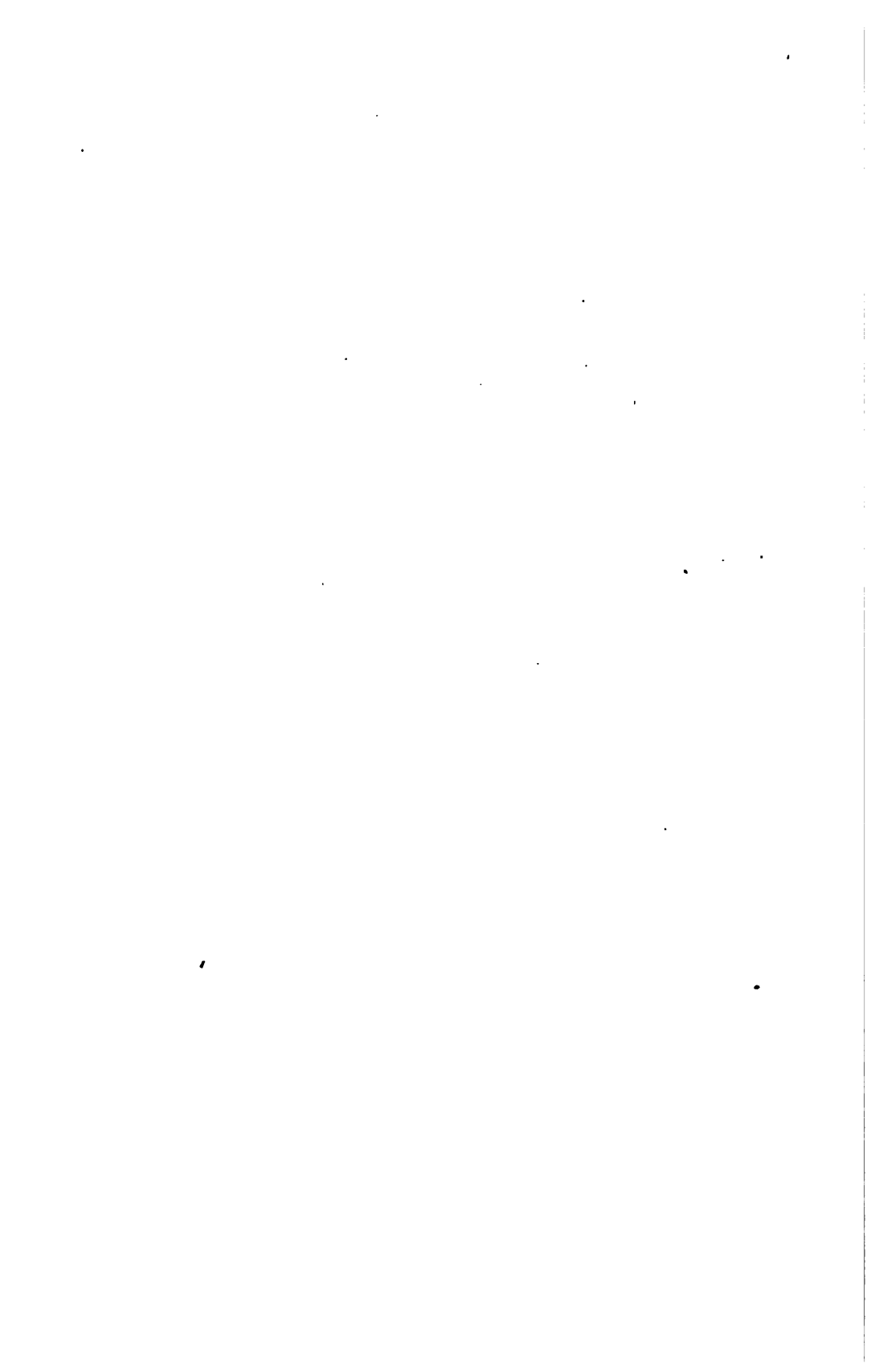


WITNESSES

WITNESSES
E. J. Nottingham
A. M. Bright.

INVENTOR

INVENTOR
Chas. Bouch.
 By *Seaggett & Seaggett.*
 ATTORNEYS.



Statement of the case.

by the magnet surrounding the rod B just below the core C. One edge of the ring D is over a lifting-tongue, C', or its equivalent, which is attached to the core C, while the opposite edge of said ring is a short distance below the crown of an adjustable set-screw, D¹. This arrangement is susceptible of various modifications, and suitable means of any description may be employed whereby one point of the ring D may be lifted in such way as to clamp the rod B, while a limit is placed to its upward movement, or to the upward movement of the core C.

The standard or support E, which may also act as a conductor, is fastened to a suitable base, H, to which base is also attached the mechanism for holding the carbon F'. This mechanism consists of a support, G, terminating in a port similar in construction to the port B¹. The lower part of this support is bent at a right angle and rests upon the base H, and is fastened to said base by the thumb or set-screw G', or any equivalent device.

It is necessary that the carbons F F' should present in accurate apposition to each other, and to accomplish this the set-screw G' is made to pass through a hole in the support G considerably larger than the shaft of said set-screw.

It will thus readily appear that when the set-screw G' is loosened the support G may be moved about until its carbon F' shall properly present toward the carbon F, when it may be secured in proper position by tightening the set-screw G'. Now, one pole of a battery or other suitable source of electricity being attached to the support G, while the other pole is connected to the support E, the electric current passes from the latter, through the helix A, rod B, and carbons F F', down to the support G, thus completing the circuit.

The core C, by the force of the axial magnetism thus created, is drawn up within the cavity of the helix, and, by means of the finger C', it lifts one edge of the ring D until, by its angular impingement against the rod B, it clamps said

Statement of the case.

rod, and also lifts it up to a distance limited by the adjustable stop D^1 .

While the ring D retains this angular relation with and impingement against the rod B , said rod will be firmly retained and prevented from moving through said ring. The adjustable stop D^1 is fixed so that it shall arrest the lifting of the rod B when the carbons $F F'$ are sufficiently separated from each other. While the electric current is not passing, the rod B can slide readily through the loose ring D and the core C , and it will be readily seen that in this condition the simple force of gravity will cause the carbon F to rest down upon the carbon F' , thus bringing the various parts of the device into the position of closed circuit. Now, if a current of electricity is passed through the apparatus, it will instantly operate, as just explained, to lift the rod B , and thus separate the carbons $F F'$ and produce the electric light.

The tension of the springs c is so adjusted by means of the screws c' or equivalent that they, together with the magnetic attraction of the helix, shall be just sufficient to support the core C , rod B , and carbon F in the position described for producing light.

As the carbons burn away, thus increasing the length of the voltaic arc, the electric current diminishes in strength, owing to the increased resistance. This weakens the magnetism of the helix, and accordingly the core, rod, and carbon F move downward by the force of gravity until the consequent shortening of the voltaic arc increases the strength of the current and stops this downward movement. After a time, however, the clutch-ring D will reach its floor or support D^2 , and its downward movement will be arrested. Now, any further downward movement of the core C , however slight, will at once release the rod B , allowing it to slide through the ring D until it is arrested by the upward movement of the core C , due to the increased magnetism.

In continued operation, the normal position of the ring D is in contact with its lower support, the office of the core C

Statement of the case.

being to regulate the sliding of the rod B through it. If, however, the rod accidentally slides too far, it will instantly and automatically be raised again, as at first, and the carbon points thus continued in proper relation to each other.

The rod B may be of such length that the longest carbon sticks may be employed, and with the device just described I experience no difficulty whatever in consuming a carbon stick of any length and obtaining a continuous and very effective light without the least manual interference.

The carbon-holder here shown, which I consider to be novel with myself, consists, essentially, of a split cylinder having a square or angular cavity. One of the pieces is attached to the rod B or standard G, while the other part is loose, and is constructed to rest upon a stirrup, B². A screw passing through the stirrup B² serves to clamp and bind the carbon between the two parts just specified.

I do not limit myself narrowly to the ring D, as other devices may be employed which would accomplish the same result. Any device may be used which, while a current of electricity is not passing through the helix A, will permit the rod B to move freely up and down, but which, when a current of electricity is passed through the helix, will, by the raising of the core C, operate both to clamp and to raise the rod B, and thereby separate the carbon points F F' and retain them in proper relation to each other.

Various devices may be used whereby the base H may be shifted or dispensed with. For instance, it may be attached in such manner as that it may be fastened to a wall or post; or it may be placed above the light in such manner as that the mechanism shall be suspended from it; or, as shown in Fig. 5 of the drawings, the base H may be placed above the light and suspended from two hooks, so as to be readily removable, if desired, and these two suspending hooks may be the positive and negative poles of the apparatus, and the hooks or eyelets to which they are swung or attached may be the positive and negative poles of the electric apparatus.

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Thus the mere suspension of the lamp will put it within the electric circuit, ready for operation. These variations are desirable when the device is to be used for illuminating purposes in such positions that the base H would cast an objectionable shadow.

When the light is designed to be used in light-houses, or for projecting images, etc., through lenses, it is necessary that the point of illumination be kept in one position. In such cases any appropriate means may be employed, such as, for instance, a device for raising and lowering the entire lamp.

If the ring D is employed, its opening may be provided either with sharp or angular edges, or the cavity may be beveled or rounded, as shown in Fig. 5 of the drawings. It is entirely immaterial how this ring is constructed, so long as it will act to clamp and lift and release the rod B, as heretofore specified.

I have thus far referred to my invention as applicable to a lamp wherein but one of the carbons is moved; but as it is equally applicable to lamps that move both carbons, I will now proceed to demonstrate the same by reference to the modified device shown in Fig. 6 of the drawings.

Here A is again the helix; C, the core of iron; D, the clamping-ring, grasping a rod directly connected to and controlling the movements of the rod B, holding the carbon F. C' is a spring lifting up one edge of the ring D, similarly to the finger C in Fig. 1, and the adjustable stop D¹ is identical with the one heretofore specified. In this modification the motion of the core C is transmitted to the rod B, substantially as heretofore described, and the exact motion of the rod B¹ through suitable link-and-lever connections, b¹ b² b³ b⁴, is communicated in reverse to the rod B¹, carrying the carbon F'.

The operation of this device is substantially similar to that of the device shown at Fig. 1. A current of electricity

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being passed through the helix A, the core C is, by force of the axial magnetism thus created, drawn up within the cavity of said helix. The spring S, or its equivalent, acts as gravity does in the rod B (shown in Fig. 1) to keep the carbons together, and the force of the magnetism through the core C resists this tendency of the spring S to draw the carbons into actual contact. The rod B, in this instance, also passes through the ring D, which is held in its angular clamping position by the spring C', which is the equivalent of the finger C' of Fig. 1.

The adjustable stop D¹ is in all respects identical with the same element hereinbefore specified. The ring D, in this instance, acts in a similar manner as heretofore described in governing and controlling the rod B.

The main point of difference between the devices shown in Figs. 1 and 6 is this: In the former one carbon is stationary and the other moves; in the latter one carbon-holder is moved substantially in the same manner as in the former, but it is made to impart a similar reverse motion to the holder of the other carbon by suitable link-and-lever connections.

I have practically and thoroughly tested the two forms of my invention as shown in the devices just specified, and in point of their capacity to consume long carbon sticks and produce a continuous and effective light without the necessity of manual interference I find them perfectly operative.

It may be proper to specify more clearly the link-and-lever connection between the rods B and B¹. Each rod is pivoted to a common frame at *b*. The rod B extends from the carbon F' to a point beyond the ring D, having a joint, *x*, where it is made to turn beyond the helix A. It is journaled at or near the end of a swinging lever, *b*², said lever hinged to the common frame at *b*¹. The rod B¹ extends from the carbon F to the point *b*³, where it journals with a link, *b*³, which connects it to the lever *b*² at or very near the point of connection of the rod B.

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It will now readily be seen that a motion given to either rod B or B¹ will be imparted in reverse to the other.

Among the numerous advantages secured by my invention, as above specified, may be enumerated the following:

First. By the use of copper-coated carbons it is entirely feasible to employ a lamp that moves only its positive carbon. The waste of the negative carbon is so very slow that the point of illumination is kept practically at one point for a considerable length of time—say, one or two hours or more.

Second. Carbon sticks of any length may be entirely consumed, and an effective light produced without manual interference.

Third. Whenever the light is put out the carbon points will certainly be brought into actual contact, and in this condition the lamp will automatically produce the electric light upon the establishment of the electric current.

This feature of always being in condition to automatically set and continue itself in effective operation I consider to be an effect never before practically attained, although many efforts have been made in that direction that have been partially successful.

What I claim is—

1st. In an electric lamp, the combination, with the carbon-holder and core, of a clamp surrounding the carbon-holder, said clamp being independent of the core, but adapted to be raised by a lifter secured thereto substantially as set forth.

2d. In an electric lamp, the combination of the clamp D and adjustable stop D¹, or their equivalents, by means of which the carbon points are prevented from becoming so far separated as to break the electric current, and extinguish the light substantially as specified.

3d. In an electric lamp, the combination of the core or armature C, the clamp D, and adjustable stop D¹, or their

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equivalents, whereby the points of the carbons are separated from each other when an electrical current is established, prevented from separating so far as to break the current, and gradually fed together as the carbons are consumed, substantially as described.

4th. In combination with the core C, one or more adjustable sustaining springs, *c*, substantially as and for the purpose shown.

5th. In an electric lamp, the combination, with a carbon-holder, of an annular clamp surrounding the carbon-holder, said clamp adapted to be moved, and thereby to separate the carbon points by electrical or magnetic action, substantially as herein set forth.

6th. In an electric lamp, an annular clamp adapted to grasp and move a carbon-holder, substantially as shown.

7th. An electric lamp provided with suspending or attaching hooks, loops, or their equivalent, representing and placed in electrical connection, respectively, with the positive and negative poles of the lamp, substantially as shown.

8th. An electric lamp provided with suspending or attaching hooks, loops, or their equivalent, representing and placed in electrical connection, respectively, with the positive and negative poles of the lamp, in combination with stationary hooks, loops, or their equivalent, placed in electrical connection, respectively, with the positive and negative poles of the battery, dynamo-electric machine, or other source of electric current, said stationary hooks or loops being located at the place where the lamp is intended to be used, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES F. BRUSH.

Witnesses:

LEVERETT L. LEGGETT,

WILLIAM E. DONNELLY.

Argument of counsel.

Messrs. W. H. KENYON and W. C. WITTER, for appellants:

A machine, in order to anticipate any subsequent discovery, must be perfected.

Putnam v. Hollender, 19 Blatch. 48; Parkhurst v. Kinsman, 1 Blatch. 488; Sickels v. Borden, 3 Blatch. 535; Cahoon v. Ring, 1 Fish. Pat. Cas. 899; Jones v. Pearce, 1 Web. Pat. Cas. 122; Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290]; Brown v. Guild, 23 Wall. 181 [10 Am. & Eng. 1].

The machine must not be a mere experimental one abandoned by the inventors.

Gayler v. Wilder, 10 How. 477 [5 Am. & Eng. 188]; Coffin v. Ogden, 18 Wall. 120; [9 Am. & Eng. 125]; Pennock v. Dialogue, 2 Pet. 1 [4 Am. & Eng. 217]; Reed v. Cutter, 1 Story. 590; Pickering v. McCullough, 3 Ban. & Ard. 279; Wilson v. Coon, 6 Fed. Rep. 626; Davis v. Brown, 9 Fed. Rep. 656; Rich. v. Lippincott, 2 Fish. Pat. Cas. 1; Bullock Printing Press Co. v. Jones, 3 Ban. & Ard. 197; Hall v. Bird, 6 Blatch. 442; Parham v. American, B. O. & S. Machine Co. 4 Fish. Pat. Cas. 482; Wood v. Cleveland Rolling-Mill Co. 4 Fish. Pat. Cas. 560; Sayles v. Chicago & N. W. R. Co. 4 Fish. Pat. Cas. 588; Hawes v. Antisdel, 2 Ban. & Ard. 10.

That proof of anticipation must be clear and convincing beyond a reasonable doubt.

Cantrell v. Wallick, 117 U. S. 689 [16 Am. & Eng. 822]; Coffin v. Ogden, 18 Wall. 120 [9 Am. & Eng. 125]; American Bell Tel. Co. v. American Cushman Tel. Co. 35 Fed. Rep. 734; Seibert Cylinder Oil Cup Co. v. Nightingale, 32 Fed. Rep. 172.

Diligence in giving the invention to the public will prevail over even a prior completed invention.

Lockwood v. Cleveland, 18 Fed. Rep. 37; Washburn & M. Mfg. Co. v. Haish, 4 Fed. Rep. 901; Consolidated Safety-Valve Co. v. Crosby S. G. & Valve Co. 118 U. S. 157 [15 Am. & Eng. 460]; American Bell Tel. Co. v. American Cushman Tel. Co. 35 Fed. Rep. 734; New York Belting & P. Co. v.

Argument of counsel.

Magowan, 27 Fed. Rep. 362; Shedd v. Washburn, 9 Fed. Rep. 904; Washburn & M. Mfg. Co. v. Haish, 7 Fed. Rep. 906; Lindsay v. Stein, 10 Fed. Rep. 907; Zinsser v. Kremer, 48 Pat. Off. Gaz. 114.

Where certain elements are claimed in combination with each other and with or without another element, a disclaimer which restricts the claim by striking out one of the alternatives has repeatedly been held good.

Myers v. Frame, 8 Blatch. 446; Tuck v. Bramhill, 8 Fish. Pat. Cas. 400; Taylor v. Archer, 4 Fish. Pat. Cas. 449; Dunbar v. Meyers, 94 U. S. 187 [11 Am. & Eng. 59]; Smith v. Nichols, 21 Wall. 112 [9 Am. & Eng. 425]; Aikin v. Dolan, 8 Fish. Pat. Cas. 197; Vance v. Campbell, 1 Black, 427 [7 Am. & Eng. 117]; Rumford Chemical Works v. Lauer, 10 Blatch. 122; Schillinger v. Gunther, 17 Blatch. 66; Hailes v. Albany Stove Co. 16 Fed. Rep. 240.

The question is not whether the machine invented is the best one known to the community, nor whether it does its work better or faster than any other machine in the same department of labor. But, if it be to a certain degree useful, and be original with the patentee, it belongs to him alone, whether it does less or more work.

Wilbur v. Beecher, 2 Blatch. 182-7; Many v. Jagger, 1 Blatch. 381; Shaw v. Colwell Lead Co. 11 Fed. Rep. 715.

The fact of a granting of a patent to a defendant has no tendency to show that the invention described in it does not infringe on a prior patent.

Holliday v. Pickhardt, 12 Fed. Rep. 147; Brainard v. Cramme, 12 Fed. Rep. 621.

Messrs. S. A. DUNCAN and E. WETMORE, for appellees:

To entitle the disclaimer to be proved, it must be pleaded.

1 Daniell's Ch. (4th Am. ed.) 827, and cases cited; Bailey v. Ryder, 10 N. Y. 363-370; Doughty v. West, 2 Fish. Pat. Cas. 553, 555; Ferguson v. Ferguson, 2 N. Y. 360, 362; Crockett v. Lee, 7 Wheat. 522, 527; 5 Curt. Dig. 313.

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The 5th and 6th claims are invalid because for different inventions from the original.

Mahn v. Harwood, 112 U. S. 354 [15 Am. & Eng. 322]; *Bates v. Coe*, 98 U. S. 48 [12 Am. & Eng. 150].

The patentee's invention has been clearly proved to have been anticipated by that of Hayes.

Coffin v. Ogden, 18 Wall. 120 [9 Am. & Eng. 125]; *Reed v. Cutter*, 1 Story, 590; *Pickering v. McCullough*, 104 U. S. 310 [18 Am. & Eng. 238]; *Curtis on Patents*, §§ 89-92.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is an appeal by the plaintiffs, Charles F. Brush and The Brush Electric Company, in a suit in equity brought by them in the Circuit Court of the United States for the Southern District of New York, against C. Harrison Condit, Joseph Hanson and Abraham Van Winkle, from a decree dismissing with costs their bill of complaint, so far as it relates to reissued letters patent, No. 8718, granted May 20, 1879, to Charles F. Brush, one of the plaintiffs, for "improvements in electric lamps," on an application for a reissue filed April 14, 1879, the original letters patent, No. 203,411, having been granted to said Brush, May 7, 1878, on an application filed September 28, 1877.

The rights of the plaintiffs were finally rested upon an alleged infringement of claims 1, 3, 5, and 6 of the reissue. Another patent was sued on in the case, but at the final hearing the bill in regard to it was dismissed with costs, on motion of the plaintiffs. The opinion of the Circuit Court, held by Judge SHIPMAN, on the merits as to reissue No. 8718, is reported in 22 Blatch. 246.

The specification of the reissue states the general nature of the invention in these words: "My invention relates to electric-light mechanism, and it consists in the following specified device, or its equivalent, whereby the carbon sticks usually employed are automatically adjusted and kept in such posi-

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tion and relation to each other that a continuous and effective light shall be had without the necessity of any manual interference." In this automatic arrangement, the electric arc is established, and then, as the electrodes are consumed, the arc is regulated by causing the strength of the current and the length of the arc mutually to control each other. There is no clock-work or other extraneous power, but the action of the electric current alone affects the necessary movements. The electrodes tend to move towards each other at all times, and this tendency is opposed by the electro-magnetic action, which tends to separate them. These opposing forces are designed to be in equilibrium when the electrodes are at such a distance from each other as will produce the maximum development of light with a given electric current. It was to an electric arc lamp of this character that the invention of Brush was to be applied. The construction of his arrangement, as described in the specification of the reissue, is as follows: A helix of insulated wire, such helix being in the form of a tube or hollow cylinder, rests upon an insulated plate upheld by a metallic post or standard. Within the cavity of the helix are contained an iron core and a rod which passes longitudinally and loosely through and within the core. This rod holds a carbon. The core is also made to move very freely within the cavity of the helix, and is partially supported by means of springs which push upwards against ears attached to the core. A ring of metal just below the core surrounds the carbon-holder, and rests upon a floor or support. One edge of the ring is over a lifting tongue, which is attached to the core, while the opposite edge is a short distance below the crown of an adjustable set screw. The design is that one point of the ring may be lifted in such way as to clamp the carbon-holder, while a limit is placed to the upward movement of the core. The poles of the battery being so attached that the circuit of an electric current is completed, the core, by the force of the axial magnetism, is drawn up within the cavity of the helix, and by means of the lifting tongue one

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edge of the ring is lifted until, by its angular impingement against the rod or carbon-holder, it clamps such rod, and also lifts it up to a distance limited by an adjustable stop. While the ring preserves this angular relation with and impingement against the rod, the rod will be firmly retained and prevented from moving through the ring. The adjustable stop is fixed so that it shall arrest the lifting of the rod when the two carbons are sufficiently separated from each other. While the electric current is not passing, the rod can slide readily through the loose ring and the core; and in this condition gravity will cause the upper carbon to rest upon the lower carbon, thus bringing the various parts of the device into the position of a closed circuit. If then a current of electricity is passed through the apparatus, it will instantly operate to lift the rod, and thus separate the two carbons and produce the electric light. As the carbons burn away, thus increasing the length of the voltaic arc, the electric current diminishes in strength, owing to the increased resistance. This weakens the magnetism of the helix, and accordingly the core, rod, and upper carbon move downward by the force of gravity until the consequent shortening of the voltaic arc increases the strength of the current and stops such downward movement. After a time, however, the ring will reach its floor or support, and its downward movement will be arrested. Any further downward movement of the core, however slight, will at once release the rod, allowing it to slide through the ring until arrested by the upward movement of the core, due to the increased magnetism. In continued operation, the normal position of the ring is in contact with its lower support, the office of the core being to regulate the sliding of the rod through it. If, however, the rod accidentally slides too far, it will instantly and automatically be raised again as at first, and the carbon points thus be continued in proper relation to each other.

Claims 1, 3, 5, and 6, of the reissue, on which alone re-

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covery is sought, read as follows, there being eight claims in all in the reissue as granted :

"1st. In an electric lamp, the combination, with the carbon-holder and core, of a clamp surrounding the carbon-holder, said clamp being independent of the core, but adapted to be raised by a lifter secured thereto, substantially as set forth."

"3d. In an electric lamp, the combination of the core or armature C, the clamp D, and adjustable stop D¹, or their equivalents, whereby the points of the carbons are separated from each other when an electric current is established—prevented from separating so as to break the current—and gradually fed together as the carbons are consumed, substantially as described."

"5th. In an electric lamp, the combination, with a carbon-holder, of an annular clamp surrounding the carbon-holder, said clamp adapted to be moved, and thereby to separate the carbon points by electrical or magnetic action, substantially as herein set forth."

"6th. In an electric lamp, an annular clamp adapted to grasp and move a carbon-holder, substantially as shown."

What is called in these claims "the clamp D" is the ring of metal which surrounds the rod or carbon-holder.

The specification of the reissue, as granted, contained the following paragraph: "I do not limit myself narrowly to the ring D, as other devices may be employed which would accomplish the same result. Any device may be used which, while a current of electricity is not passing through the helix A, will permit the rod B to move freely up and down, but which, when a current of electricity is passing through the helix, will, by the raising of the core C, operate both to clamp and to raise the rod B, and thereby separate the carbon points F F', and retain them in proper relation to each other."

On the 14th of October, 1881, the plaintiffs filed in the Patent Office a disclaimer, in which they stated that the patentee had claimed more than that of which he was the first

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inventor or discoverer, by or in consequence of the use in the specification of the language contained in the paragraph last above quoted; and that there were material and substantial parts of the thing patented, also embraced within the terms of the above quoted paragraph, which were truly and justly the invention of Brush. The paper went on to enter a disclaimer to that part of the subject-matter of the specification and of claims 1, 2, 3, 5 and 6 of the reissue, which being embraced within the general language of the above quoted paragraph, included as within the invention of Brush "clamping devices substantially different in construction and mode of operation from the clamp D."

On the 6th of April, 1883, the plaintiffs filed in the Patent Office a disclaimer of so much or such part of the invention described in the reissue, and coming within the general language of the 3d claim, as might cover or include as elements thereof "the core or armature C" and "the clamp D," excepting when the core or armature raises the clamp by a lifter secured to such core or armature, substantially as described in the patent. The same paper disclaimed the specific combinations forming the subject-matter of claims 2, 7 and 8.

Judge SHIPMAN held that the 1st claim describes a clamp independent of, that is, not fixed to the core, but adapted to be raised by a lifter secured to, the core, and does not mean that the clamp is independent of, and not in any way dependent for its motion upon, the core, but is adapted to be raised by a lifter secured to itself. He further held, that the 1st claim does not include the adjustable stop of the 3d claim, but includes only the combination of the clamp and core and rod, with the described elements which are necessary to cause an angular impingment upon the rod and an intermittent downward feeding of the rod. He also held that the clamp of the 6th claim is not an annular clamp adapted to grasp and move a carbon-holder, but means to describe in general terms the clamp of the 1st claim, which raises,

132 U. S. 42-44.

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clamps and feeds downwardly the rod, preserving a practically uniform length of arc by the described means, or an annular clamp surrounding the carbon-holder independently of the core, but adapted to be raised by a lifter secured to the core and some suitable agency to allow the clamp to be tripped; and that the 5th claim includes the clamp of the 1st and 6th claims, the carbon-holder, the motor and the tripping device.

Judge SHIPMAN examined the question of the novelty of claims 1, 3, 5 and 6, and arrived at the conclusion that they were invalid by reason of their prior existence as perfected inventions, in a lamp made in June, 1876, by one Hayes, at Ansonia, Connecticut. On this subject he says in his opinion:

"The clamp, in connection with the other necessary elements, which was made by Charles H. Hayes, of Ansonia, Connecticut, and was a part of a lamp which he constructed about the end of June, 1876, as an improvement upon the White lamp, is a combination of the 1st and 3d claims of the Brush patent. The carbon rod was square or rectangular, and, therefore was surrounded by a rectangular clamp which was independent of the core. It is not denied that this clamp is the equivalent of an annular clamp. It was raised by a lifter secured to the core and was tripped by coming in contact with a floor, while the ascent of the rod was checked by the contact of the clamp with an adjustable stop.

"The plaintiffs' answer to the anticipatory character of this clamp is that it was an abandoned experiment and never was a perfected invention. The facts in regard to its character and position as an invention are as follows: Mr. Hayes was, in 1876, and has been continuously since, in the employ of Wallace & Sons, who are large manufacturers of brass goods in Ansonia. In 1876 this firm was trying to find a successful electric lamp to manufacture. Mr. White furnished them with his device, which they sent as a part of their exhibit, to the Centennial Exhibition at Philadelphia. Mr.

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Hayes testifies as follows: 'Experiments with the White lamp showed its defects so strongly or plainly that I designed this' (the Hayes) 'lamp to overcome these defects. I made rough drawings in the middle or latter part of May, 1876; commenced building the lamp at once, and finished it about the end of June following; tested it, tried it, and made some minor alterations, and run it from time to time, when a lamp was needed until the 16th of September following.' At this time he was in Philadelphia, and a fellow employé by the name of King, thinking that he could improve upon the clutch and make the feeding of the carbons answer more promptly to the changes of the current or make the feeding less 'jerky,' obtained permission from Wallace & Sons, who owned the clamp, to make the alteration. The 'King clutch,' constructed upon a different principle from that of the Hayes or the Brush clamp, was put into the lamp; which has remained in use in the mill, and, since the end of 1876, has been 'used in the electrical room for testing machines, carbons, etc., and has been used for that purpose more or less ever since.' But one Hayes lamp was made until a duplicate specimen was made for use in this case. The Hayes clamp, it will be observed, was used in the lamp only until September 16th. Prior to that date the use of the lamp with the original clamp is thus described by Mr. Hayes upon cross-examination: 'It' (the lamp) 'was moved about and burned in different places—in the mill and outside—and it was also burned in our other shop occasionally.' This shop was known as the skirt shop, the third floor of which was used for electrical work. The mill and skirt shop were ordinarily lighted by gas. 'Question. On what occasions did you use the lamp out-of-doors? Answer. The lamp was used out-of-doors on several occasions; when gangs of men required light unloading freight from railway cars; digging for some work connected with the water power. I am unable to specify positively any particular date, but have a general recollection of being frequently called upon to make

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a light for some such purposes. Question. Did you use it sometimes to test dynamos with in June-September, 1876?

Ans. I think not during that time. Question. What other use did you put it to during those months except the occasions of out-of-doors which you have mentioned? Ans. It was used about the mill, more particularly around the mufles, on occasions when it was necessary to work during the evening.' The use was a public one in the presence of the employes of the factory. The Hayes clamp has been preserved and was on exhibit in the case. Wallace & Sons thereafter, after much experimenting, went, to a limited extent, into the manufacture of what were known in the case as 'plate lamps,' or lamps having two carbon plates instead of rods, but did not continue the business long. They say that the discontinuance was due to the fact that they did not have a satisfactory generator. The Hayes clamp was used upon the plate lamps, but, as has been said, was used upon but one carbon-pencil electric lamp.

"The plaintiffs vigorously insist that the Hayes clamp was not a completed and successful invention, but that its use was merely tentative and experimental, and was permanently abandoned because the device did not promise to be successful.

"Two facts are manifest: 1st, that the Hayes clamp was the clamp of the Brush patent; and, 2d, that it became, after September 16th, a disused piece of mechanism in connection with carbon points. The question then is, was it a perfected and publicly known invention, the use of which was abandoned prior to the date of the Brush invention, or was its use merely experimental, which ended in an abandoned experiment on September 16th?

"The plaintiffs, in support of their view, say that Wallace & Sons were searching for a successful lamp, and were exhibitors of an electric lamp at the Centennial Exhibition; that inventors were in their employ, who were encouraged to make experiments and trials in the hope that something

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good might be produced, and, under this stimulus, one Hayes lamp was made; that improvements in the location of the spring were made; that it gave a 'jerky' light, and, when the inventor was away, another clamp was put on, by the permission of the owners, to remedy this irregular feeding; that afterwards no other lamp was ever constructed, and the Hayes clutch was left among other 'odds and ends;' and that the indifference with which it was received, its confessed faults, the attempted improvements, and its disuse, show that the Hayes clamp never was anything more than an attempt to invent something, which proved to be a failure.

"The question of fact, in this part of the case, must turn upon the character of the use of the lamp prior to September 16th, because it is established that the Hayes clamp and the Brush clamp, in its patented features, were substantially alike, and that the point in which they differ, viz.: the length of the arms, is not a part of the principle of the device. Was the lamp with this clutch used merely to gratify curiosity, or for purposes of experiment, to see whether the feeding device was successful, or whether anything more was to be done to perfect it; or was it put to use in the ordinary business of the mill, as a thing which was completed, and was for use, and was neither upon trial nor for show?

"Hayes made the lamp for Wallace & Sons as an improvement upon the White lamp, and apparently turned it over to them to be used when they chose. An alteration was subsequently made in the location of the spring. The lamp was used at different times, in the work of the mill, at night, in-doors and out-of-doors. Its use at these times does not seem to have been for the purpose of testing the machine, or of calling attention to its qualities, or of gratifying curiosity, but it was used to furnish light to the workmen at their work. I have queried whether this use was not that of a thing which might be of help in an emergency, and which was thought to be better than nothing, though not of much

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advantage; but it was, apparently, used to accomplish the ordinary purposes of an electric light in a mill, to enable the workmen to see at night, although it was not uniformly used, because the mill was lighted by gas.

"But the plaintiffs press the question—Why, then, was the further use of the Hayes clamp and lamp discontinued? This question is significant, because the abandonment of a thing which is greatly wanted is, ordinarily, a very suggestive circumstance to show that it was defective, and that, before the invention could be completed, something was to be done which never was done.

"I think that Wallace & Sons did not push the electric-lamp business because they had no generator, and I also think that the Hayes lamp, either with or without the Hayes clutch, did not impress them favorably, for they contented themselves with making only one specimen, whereas they made six White lamps, and, after much experimenting, and after the invention of the Hayes lamp, they made fifty or sixty plate lamps. For some reason they did not manufacture the Hayes lamp, but turned away to the plate lamps. But the facts that the anticipatory device was the device of the patent, and did do practical work, and was put to ordinary use, and that it does not appear that the Hayes clamp was the cause of the neglect with which Wallace & Sons treated the Hayes lamp, seem to me to outweigh the doubts which arise from the shortness of its existence and its permanent disappearance from a carbon-pencil lamp.

"The case is that of the public, well-known, practical use, in ordinary work, with as much success as was reasonable to expect at that stage in the development of the mechanism belonging to electric arc lighting, of the exact invention which was subsequently made by the patentee; and, although only one clamp and one lamp were ever made, which were used together two and one-half months only, and the invention was then taken from the lamp and was not afterwards used with carbon pencils, it was an anticipation of

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the patented device, under the established rules upon the subject. With a strong disinclination to permit the remains of old experiments to destroy the pecuniary value of a patent for a useful and successful invention, and remembering that the defendants must assume a weighty burden of proof, I am of the opinion that the patentee's invention has been clearly proved to have been anticipated by that of Hayes. *Coffin v. Ogden*, 18 Wall. 120 [9 Am. & Eng. 125]; *Reed v. Cutter*, 1 Story, 590; *Pickering v. McCullough*, 104 U. S. 310 [13 Am. & Eng. 238]; *Curtis on Patents*, §§ 89-92.

"The bill, so far as it relates to the clamp patent, is dismissed."

We have examined carefully the evidence in this case, relied upon by the plaintiffs to show that the clamp arrangement of Hayes was not a perfected invention, but was merely an abandoned experiment, and we have arrived at the conclusion that Judge SHIPMAN's views on the subject are correct. They are well and accurately expressed, and we could not add to their force by a prolonged discussion of what is purely a question of fact.

The cases of *Coffin v. Ogden* and *Pickering v. McCullough*, cited by Judge SHIPMAN, are enforced by the case of *Hall v. Macneale*, 107 U. S. 90, [14 Am. & Eng. 291]. This latter case meets, also, the objection made by the appellants that the mechanism of the Hayes clutch was concealed from view, and the further objection that it would not operate as perfectly as that of the Brush invention. In *Hall v. Macneale*, speaking of the anticipating safes, this Court said: "The invention was complete in those safes. It was capable of producing the results sought to be accomplished, although not as thoroughly as with the use of welded steel and iron plates. The construction and arrangement and purpose and mode of operation and use of the bolts in the safe were necessarily known to the workman who put them in. They were, it is true, hidden from view, after the safes were completed, and it required a destruction of the safes to bring

132 U. S. 48-49.

Opinion of the Court.

them into view. But this was no concealment of them or use of them in secret. They had no more concealment than was inseparable from any legitimate use of them."

It is contended by the appellants that, notwithstanding the prior existence of the Hayes apparatus as a perfected invention, claims 5 and 6 of the reissue are sustainable because each of them is limited to an "annular clamp." It is urged that the clamp of the patent is a ring which surrounds a cylindrical rod, and that the rod in the Hayes apparatus was square or rectangular, and was surrounded by a rectangular clamp. But it is quite apparent that claims 5 and 6 of the reissue would, if the patent were valid, be infringed by the manufacture and use of the patented apparatus with a rectangular carbon rod surrounded by a rectangular clamp. Such an apparatus might be inferior in perfection and utility to the cylindrical rod with the ring clamp; but it would still embody the principle of the invention carried out by equivalent means. The improvement, if any, in the use of the circular clamp over the rectangular clamp, was only a question of degree in the use of substantially the same means.

We are of opinion that the decree of the Circuit Court must be affirmed, *and it is so ordered.*

122 U. S. 49.

Notes :**1. Perfected invention.**

Hall v. Macneale, 107 U. S. 90 [14 Am. & Eng. 291.]

Brown v. Davis, 116 U. S. 237 [16 Am. & Eng. 212].

Smith & Griggs Mfg. Co. v. Sprague, 123 U. S. 249 [17 Am. & Eng. 243].

And see Miller v. Foree, 116 U. S. 22 [16 Am. & Eng. 193].

Notes and citations.

2. Public use of concealed mechanism when not a secret use.

Egbert v. Lippman, 104 U. S. 333 [13 Am. & Eng. 273].

Hall v. Macneale 107 U. S. 90 [14 Am. & Eng. 291].

3. That which infringes, if later, is an anticipation if earlier.

Cook v. Sandusky Tool Co. [15 Am. & Eng. 120].

Voss v. Fisher, 113 U. S. 213 [15 Am. & Eng. 493].

Peters v. Active Mfg. Co. 129 U. S. 530. [p. 390, *ante*.]

4. Change in degree is not invention:

Hotchkiss v. Greenwood, 11 How. 248 [5 Am. & Eng. 240].

Phillips v. Page, 24 How. 161 [7 Am. & Eng. 97].

Smith v. Nichols, 21 Wall. 112 [9 Am. & Eng. 425].

Roberts v. Ryer, 91 U. S. 150 [10 Am. & Eng. 302].

Dalton v. Jennings, 98 U. S. 271 [10 Am. & Eng. 459].

Dunbar v. Myers, 94 U. S. 187 [11 Am. & Eng. 59].

Glue Co. v. Upton, 97 U. S. 3 [11 Am. & Eng. 458].

Crouch v. Roemer, 103 U. S. 797 [13 Am. & Eng. 165].

Stow v. City of Chicago, 104 U. S. 549 [13 Am. & Eng. 426].

Guidet v. City of Brooklyn, 105 U. S. 550 [14 Am. & Eng. 38].

Estey v. Burdett, 109 U. S. 633 [15 Am. & Eng. 32].

Pomace Holder Co. v. Ferguson, 119 U. S. 335 [16 Am. & Eng. 441.]

Peters v. The Active Mfg. Co. 129 U. S. 530. [p. 390, *ante*.]

Evory v. Burt, 133 U. S. 349.

French v. Carter 137 U. S. 239.

Busell Trimmer Co. v. Stevens 137 U. S. 428.

Consolidated Roller-Mill Co. v. Walker, 138 U. S. 124.

International Crown-Tooth Co. v. Gaylord, 140 U. S. 55.

Notes and citations.

Patents in suit:

No. 203,411. C. F. Brush. May 7, 1878. Electric lamps.
Reissue. No. 8718. May 20, 1879.

OTHER SUITS ON SAME PATENT:

Brush v. Condit, 1884. 22 Blatch. 246; 20 Fed. Rep. 826; 28 O. G. 451.

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Oct., 1889.] ARON v. MANHATTAN RAILWAY Co. 609

Syllabus.

JOSEPH ARON, APPELLANT, v. THE MANHATTAN
RAILWAY COMPANY.*

122 U. S. 84-99. October Term, 1889.

[Bk. 33 L. ed. 272; 49 O. G. 1365].

Affirming *Ibid*, 26 Fed. Rep. 314; 84 O. G. 1508.

Argued October 28, 29, 1889. Decided November 11, 1889.

Invention. Analogous use. Mechanical skill. Judicial notice.
Particular patent void.

1. Letters patent No. 288,494, granted November 13, 1883, to plaintiff as assignee of William W. Rosenfield, for an Improvement in Railway-Car Gates, construed in view of the state of the art to be for the application to a new situation of old devices which had been previously applied to analogous uses, and *held* to be for mechanical skill and wanting in invention. (p. 627.)
2. The Court will take judicial notice of matters of common knowledge such as a strap used by the driver at the front of an omnibus to open and close the rear door, devices for opening or closing valves at a distance in steam and hydraulic apparatus, and devices used at railway switches for opening and closing the rails. (p. 630.)
3. To do that which any competent mechanic familiar with devices well-known in the state of the art could have done readily and successfully, upon the mere suggestion of the purpose which it was desirable to effect, does not constitute invention. (p. 631.)
4. Although the patentee may be entitled to the merit of being the first to conceive of the convenience and utility of mechanism for accomplishing a certain purpose, his right to a patent must rest upon the novelty of the means he has contrived to carry his idea into practical operation. (p. 632.)

* See Explanation of Notes, page III.

Statement of the case.

Appeal from a decree of the Circuit Court of the United States for the Southern District of New York, dismissing a suit in equity to recover for the infringement of letters patent, No. 288,494, granted to the plaintiff as the assignee of William W. Rosenfield, the inventor, November 13, 1883, for an improvement in railway-car gates.

The specifications and drawings of the patent in suit, and of the Wollensak and Corrigan patents referred to in the opinion of the Court, are as follows:

WILLIAM W. ROSENFELD, OF NEW YORK, N. Y.,
ASSIGNOR TO JOSEPH ARON, OF SAME PLACE.

RAILWAY-CAR GATE.

Specification forming part of Letters Patent, No. 288,494, dated November 13, 1883; application filed April 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. ROSENFELD, a citizen of the United States, residing in the City of New York, County of New York, and State of New York, have invented certain new and useful Improvements in Gates for Railway-Cars, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

In many classes of railway-cars, and particularly in those used upon the elevated and other city railways, it has been found necessary, in order to prevent passengers from falling from the train, and also to prevent persons from attempting to get off or on a car while in motion, to provide the entrances to the car-platform with gates, by which they can be closed except at the proper times. These gates are usually in charge of a guard or attendant, whose duty it is to close the gates before the train commences to move, and to open

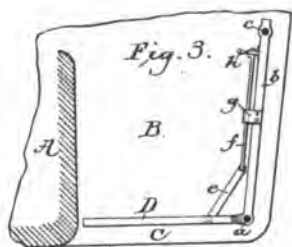
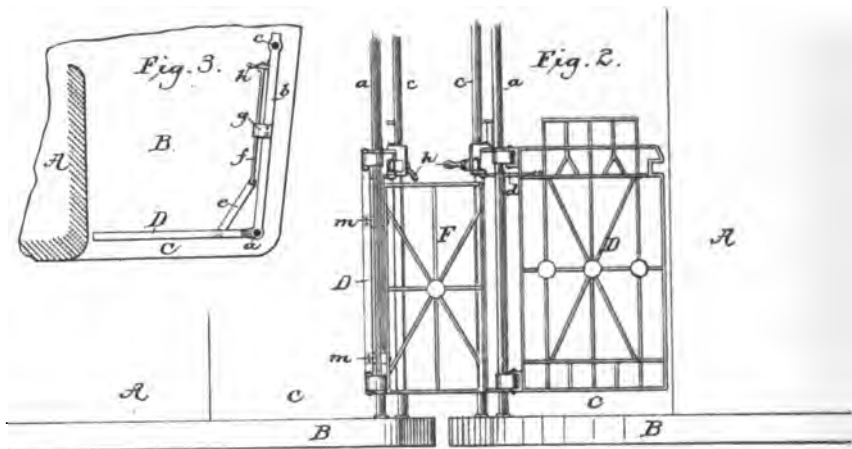
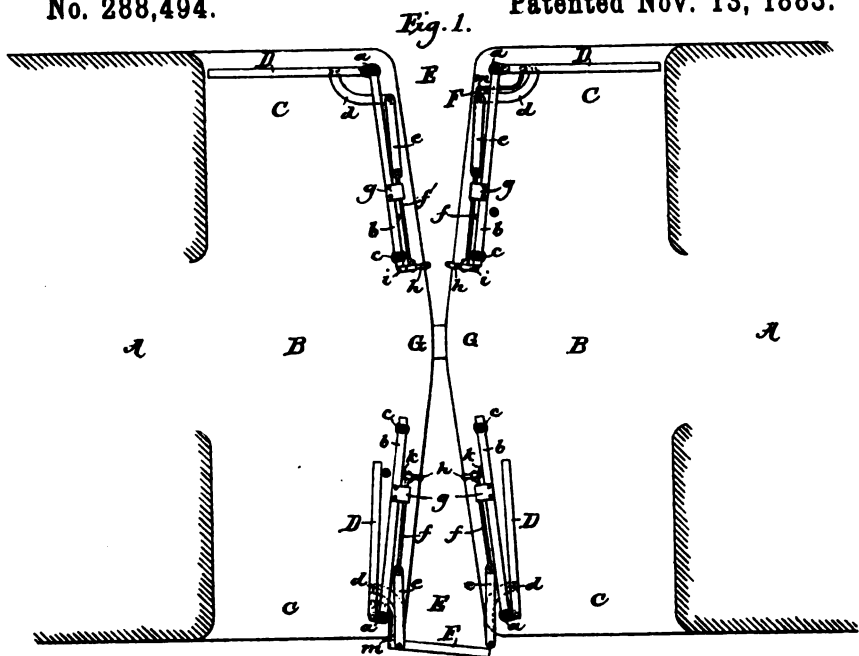
(No Model.)

W. W. ROSENFELD.

RAILWAY CAR GATE.

No. 288,494.

Patented Nov. 13, 1883.



Witnesses:

A. J. Jackson.
J. A. Cooley

Inventor:

Wm. W. Rosenfield,
by his Attorneys

Mason & Phillips

Statement of the case.

them only after the train has come to a full stop. As there is usually but one guard or attendant stationed between each two adjoining cars, it follows that to open or close both gates he must pass around from one to the other of the adjoining platforms. This passing from one platform to the other, besides being a source of annoyance to the guard, occasions some delay, which is very annoying to the passengers, particularly at times when a large number are required to get off or on a car in a very short time. •

It is the object of the present invention, among other things, to provide means by which the guard or attendant can, without changing his position, open or close both gates simultaneously and with the least possible delay.

To that end one feature of the invention consists in providing the gates with connections, so arranged that any two adjoining gates can be simultaneously opened or closed by the guard while standing in the passageway leading from one of the cars to the other.

In order to adapt cars to run upon a track in which there are abrupt or comparatively abrupt curves, which is the case with most city railways, it is necessary that the platforms should be so constructed as to leave considerable open space at the sides between the platforms of two adjoining cars when they are standing upon a straight track. This open space has frequently been the cause of serious accidents to persons who have been crowded from the station-platform and fallen between the platforms of the cars.

Another object of the present invention is to provide means by which this danger shall be avoided; and to this end another feature of the invention consists in providing a gate which can be operated, in connection with one of the platform-gates, to close this space and prevent persons from falling or being crowded into the same while a train is standing at a station.

In the accompanying drawings, Figure 1 is a plan view of the adjoining platforms of two cars, showing the gates upon

Statement of the case.

one side open and those upon the opposite side closed, the gates being provided with an opening and closing apparatus embodying the present invention. Fig. 2 is a side elevation of the same, one of the gates being closed; and Fig. 3 is a plan view illustrating a modification in the opening apparatus to be hereinafter explained.

Referring to said drawings, it is to be understood that A A represent two ordinary railway-cars, and B B the adjoining platforms thereof, C C being the usual entrances from the station-platform, and D D gates of the ordinary construction for closing said entrances. The gates D are hinged, in the usual manner, to posts *a*, rising from the corners of the platforms and close against the usual jambs (not shown) projecting from the sides of the cars. The platforms B are provided, as shown in Fig. 1, with the usual guard-railings, *b*, extending inward from the posts *a* to similar posts, *c*, which are located a sufficient distance apart to leave a passageway, G, from one car to the other. When the gates are thus arranged, it is necessary, as will readily be seen, in order to close or open both gates, for the guard to pass from one platform around the posts *c* to the opposite platform, thus causing some delay in opening or closing one of the gates, and adding to the labor of the guard, and causing annoyance to the passengers. In order to avoid this, each of the gates is provided, at a suitable distance from its hinge, with a curved lever, *d*, which extends rearward and terminates a short distance outside of the railing *b*. This lever is connected by a link, *e*, with a rod, *f*, which slides freely in or on a suitable bearing, as *g*, secured to the railing *b*, and is provided at its inner end with a handle, *h*, by which it can be operated. From this arrangement it will be seen that the guard or attendant, while standing in the passageway G, can, by grasping the two handles *h* and pushing or pulling the rods *f*, open or close both of the gates simultaneously and without loss of time. The rods *f* will preferably be provided with some form of locking mechanism by which

Statement of the case.

the gates can be fastened in their opened or closed positions. Such locking may be accomplished by having the handles *h* pivoted to the rods *f*, as shown in the present case, and provided with extensions *i*, which can be turned so as to extend in front of the posts *c* and hold the gates closed, as shown at the top of Fig. 1, or so as to lie in the rear of lugs *k* and hold the gate open, as shown at the bottom of said figure.

Although it is preferable that the rods *f* and links *e* should be arranged upon the outside of the railings *b*, as shown in Figs. 1 and 2, as in this position they will be entirely out of the way, and will not prevent the gates from swinging back against the railings *b*, yet this arrangement is not necessary. The rods and links may, as shown in Fig. 3, be arranged upon the inside of the railings, in which case the levers *d* may be dispensed with, the links *e* being attached directly to the gates.

It will also be seen that the connections for operating the gates may, if desired, be placed beneath the platforms. This can readily be accomplished by causing the rods or posts upon which the gates swing to extend below the platforms, and providing their lower ends with arms corresponding to the levers *d*. The links *e* and rods *f* may then be located beneath the platforms and operated by pivoted levers, the upper ends of which will occupy substantially the positions of the handles *h*.

If preferred, the gates may be hinged at their opposite ends, so as to lie against the body of the car when open, in which case the connections beneath the platforms will only require such modification as is necessary to change the direction of the motion derived from the operating-levers. In some cases, also, it may be preferable to provide sliding instead of swinging gates. Such gates can readily be operated in the same manner by a very slight modification in the connections. In cars of this class it is necessary, as has been explained, that a considerable space, *E*, should be left between the sides of the adjoining platforms. In order to

Statement of the case.

prevent persons from falling or being crowded from the station-platform into this space, one of the two adjoining gates D is provided with two or more arms, *m*, similar in shape to the levers *d*, to the ends of which is attached a gate, F, which extends at substantially right angles to the gate D, as shown in Fig. 1. From this arrangement it results that when the train is in motion and the gates D are closed the gate F will be swung to the position shown at the top of Fig. 1, so as to lie close to the railing *b*, and not interfere with the movement of the cars in passing around curves. As soon, however, as the train arrives at a station and the gates D are opened, the gate F will be swung to the position shown at the bottom of said figure, so as to close the space E and prevent persons from being crowded therein.

It is not necessary, as will readily be seen, that the gates F should be secured to the gates D by means of the arms *m*, as they may be secured to or made to operate in connection with said gates in any convenient or desirable manner.

What I claim is—

1st. The combination with a gate arranged to close the side entrance to a car-platform, of an operating-handle located at or near the inner end of the platform guard-rail, and means connecting said gate and handle, whereby the attendant may open and close the gate while standing at the end of said guard-rail, substantially as described.

2d. The combination, with gates arranged to close the side entrances to the adjoining platforms of two cars, of operating-handles located at or near the inner ends of the platform guard-rails and means connecting said gates and handles, whereby the attendant may open or close both gates simultaneously while standing at the ends of said guard-rails, substantially as described.

3d. The combination, with a railway-car and its platform, having an end guard-rail, by which a side entrance thereto is provided, of a gate for closing said entrance, a rod, as *f*, sliding in or on guides secured to said guard-rail, and a link

Statement of the case.

as *e*, connected to said gate and rod, all substantially as described.

4th. The combination, with a railway-car and its platform, having an end guard-rail, by which a side entrance thereto is provided, of a swinging gate for closing said entrance, a rod, as *f*, sliding in or on a guide secured to said rail, a link, as *e*, connected to said gate and rod, and means for locking said gate in its closed position, all substantially as described.

5th. The combination, with gates arranged to close the side entrances to the adjoining platforms of two cars, of rods, as *f*, sliding in or on guides secured to the guard-rails of said platforms, and links, as *e*, connected to said gates and rods, substantially as described.

6th. The combination, with gates, as *D*, arranged to close the side entrances to the adjoining platforms of two cars, and a gate, as *F*, arranged to close the space between said platforms, of operating-handles located at or near the inner ends of the platform guard-rails, and means connecting said gates and handles, whereby the attendant may open and close said gates simultaneously while standing at the end of said rails, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WM. W. ROSENFELD.

Witnesses :

JAS. A. HOVEY,

T. H. PALMER.

JOHN F. WOLLENSAK, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN TRANSOM LIFTERS AND LOCKS.

Specification forming part of Letters Patent, No. 136,801,
dated March 11, 1873.

To all whom it may concern :

Be it known that I, JOHN F. WOLLENSAK, of Chicago, in

Statement of the case.

the County of Cook and State of Illinois, have invented a new and Improved Transom-Lifter and Lock; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view, Fig. 2 is a side elevation, and Fig. 3 is a section.

Similar letters of reference in the accompanying drawing denote the same parts.

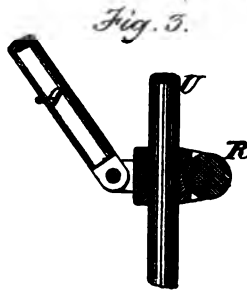
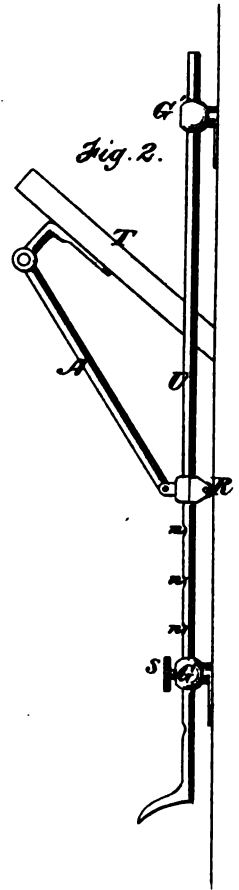
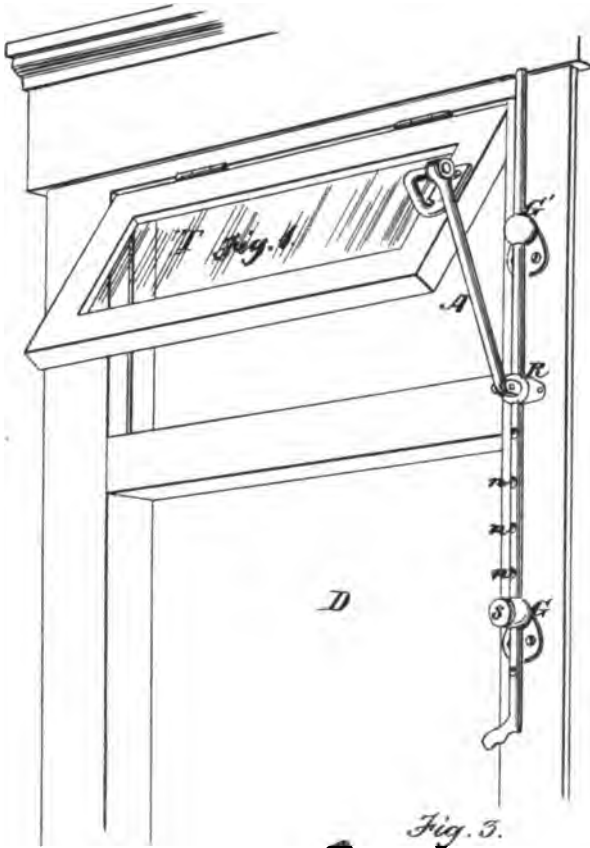
Transom-lifters have heretofore been constructed with a long upright rod or handle jointed at its upper end to a lifting-arm which extends to and is connected with the side or edge of the transom-sash, the sash being opened or closed by a vertical movement of the long rod. When thus constructed the upright rod is liable to be bent by the weight of the transom, owing to the want of proper support at and above the point of junction between the long rod and the lifting-arm. The object of my invention is to remedy this difficulty by constructing and arranging the parts so that they will receive the proper support at the proper points; to accomplish which I first prolong the upright rod to some distance above the point of junction with the lifting-arm, and pass the end thus prolonged through a guide affixed to the wall above said joint; and, secondly, I provide the upright rod with a friction-roller at said point of junction arranged to bear against the wall and help sustain the weight of the sash, substantially as I will now proceed to set forth.

In the drawing, D is the door; T, the transom-sash, pivoted at top, bottom, or middle, as preferred; A, the lifting-arm that connects the sash to the upright rod; U, the upright rod, passing through two guides, G G', one above and one below the point of junction with the lifting-arm; R, a friction-roller secured to the lifting-rod so as to bear against the wall and support said rod at its point of junction with the lifting-arm; *n n*, notches cut in the upright rod to receive the end of the set-screw; and *s*, a set-screw arranged

J. F. WOLLENSAK.
Transom Lifters and Locks.

No. 136,801.

Patented March 11, 1873.



Witnesses.
 L. F. Brown.
 M. Church.

Inventor.
 J. F. Wollensak.
 by his Attys.
 Hill & Ellsworth



Statement of the case.

in connection with the lower guide and the rod U, so as to be convenient of operation, for the purpose of fixing the transom at any required angle. The upright rod is thus supported at three points, to wit, above, below, and at the joint where it sustains the weight of the transom. It can also be adjusted and securely fastened so as to open the sash as much or as little as may be desired, and to lock it in that position.

Having thus described my invention, what I claim as new is—

1st. The roller R, arranged at the junction of the lifting-arm A and upright rod U, in a transom-lifter, substantially as and for the purpose described.

2d. The guide G', arranged above the junction of the lifting-arm and upright rod, in combination with the prolonged rod U, the guide G, and arm A, substantially as and for the purpose specified.

JOHN F. WOLLENSAK.

Witnesses:

C. G. HÜLCHE,

JOHN H. SHINKEL.

THOMAS CORRIGAN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SHUTTER-WORKERS.

Specification forming part of Letters Patent, No. 202,413,
dated April 16, 1878; application filed February 7, 1878.

To all whom it may concern:

Be it known that I, THOMAS CORRIGAN, of Brooklyn, in the County of Kings and State of New York, have invented a new and useful Improvement of Blind Adjuster and Fastener, of which the following is a specification:

Figure 1 represents a window to which my improvement has been applied, the lower sash being shown as partly raised.

Statement of the case.

Fig. 2 is a horizontal section of the same, taken through the line *x z*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved device the use of which will enable the blinds to be opened, closed, adjusted at any desired angle, and securely fastened in the various positions without its being necessary to raise the sash, and which shall be simple in construction, convenient in use, and reliable in operation.

The invention consists in the novel combination of the curved bars, the sliding jointed bars, the slides, and the eccentrics with each other, and with the blinds and the casing of a window, as hereinafter more fully described and claimed.

A represents the casing, B the lower sash, C the upper sash, and D the blinds, of a window, about the construction of which parts there is nothing new.

To the lower parts of the blinds D are pivoted the outer ends of the curved bars E, the inner ends of which are pivoted to the jointed bars F at their joints. The bars F slide in grooved slides G, let into the window-sill, and passing in through the lower part of the casing.

The joints in the sliding bars F are made near their rear ends, and in such positions that the forward and main parts of the said bars F, when the blinds D are fully closed, may be turned along the inner side of the lower part of the casing A, as shown in Figs. 1 and 2, the outer, and smaller parts of the said bars F, remaining in the slides G, to serve as guides to the said bars E.

In the edge of the bars F are formed notches, to receive the edges of the eccentrics H, which are pivoted to the casing A, so that the said bars E may be securely held in any position into which they may be adjusted.

By this construction, by operating the sliding bars F, the blinds D may be closed and opened to any desired extent without its being necessary to raise the sash B.

I am aware of shutter-workers consisting, essentially, of

T. CORRIGAN.
Shutter-Worker.

No. 202,413.

Patented April 16, 1878.

Fig. 1.

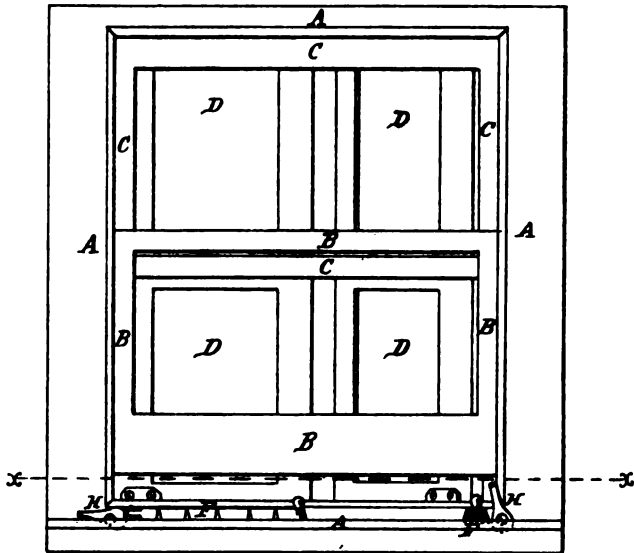
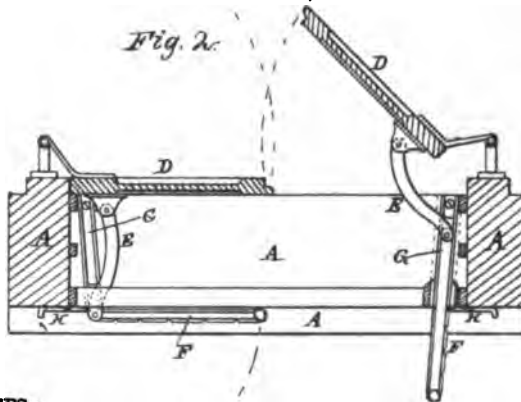


Fig. 2.



WITNESSES:

Henry N. Miller
C. Sedgwick

INVENTOR:

T. Corrigan
BY *Munroe*

ATTORNEYS.

Argument of counsel.

sliding handled bars attached to the shutters and extending through the window-frame, and combined with means for locking the shutter in a fixed, open or closed position, and such are not broadly claimed.

Having thus described by invention, I claim as new and desire to secure by letters patent—

The combination of the curved bars E, the sliding jointed bars F, the slides G, and the eccentrics H with each other, and with the blinds D and the casing A of a window, substantially as herein shown and described.

THOMAS CORRIGAN.

Witnesses:

JAMES T. GRAHAM,

JAMES H. HUNTER.

The facts are stated in the opinion.

Opinion below. 26 Fed. Rep. 314.

Mr. M. B. PHILIPP, for appellant :

A combination of old devices, in which the novelty consists essentially in the arrangement or location of one of them with respect to the other, has often been of the greatest utility and value, and patents therefore have been sustained both in England and in this country.

Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290]; *Smith v. Goodyear D. V. Co.*, 98 U. S. 495 [11 Am. & Eng. 1]; *Webster Loom Co. v. Higgins*, 105 U. S. 591 [14 Am. & Eng. 70].

Messrs. JULIEN T. DAVIES and EDWIN H. BROWN, for appellee:

The patent is bad upon its face. No patentable invention is defined by these claims.

Merrill v. Yeomans, 94 U. S. 568 [11 Am. & Eng. 203]; *Keystone Bridge Co. v. Phoenix Iron Co.*, 95 U. S. 274 [11

Argument of counsel.

Am. & Eng. 364]; *Miller v. Bridgeport Brass Co.*, 104 U. S. 350 [13 Am. & Eng. 303]; *Union Water-Meter Co. v. Desper*, 101 U. S. 332 [12 Am. & Eng. 380]; *Gage v. Herring*, 107 U. S. 640 [14 Am. & Eng. 454]; *Fay v. Cordesman*, 109 U. S. 420 [15 Am. & Eng. 1]; *White v. Dunbar*, 119 U. S. 47 [16 Am. & Eng. 397]; *Weir v. Morden*, 125 U. S. 98 [17 Am. & Eng. 530].

The appellant must show that the production of the alleged improvement involved the exercise of the inventive faculty.

Atlantic Works v. Brady, 107 U. S. 192 [14 Am. & Eng. 380]; *Phillips v. Detroit*, 111 U. S. 608 [15 Am. & Eng. 269]; *Hollister v. Benedict & B. Mfg. Co.*, 113 U. S. 59 [15 Am. & Eng. 417]; *Thompson v. Boisselier*, 114 U. S. 1 [15 Am. & Eng. 549].

The Court will take judicial notice of the prior state of the art.

Dunbar v. Meyers, 94 U. S. 198 [11 Am. & Eng. 59]; *Terhune v. Phillips*, 99 U. S. 592 [12 Am. & Eng. 270]; *Slawson v. Grand Street P. P. & F. R. Co.*, 107 U. S. 654 [14 Am. & Eng. 475]; *King v. Gallun*, 109 U. S. 99 [14 Am. & Eng. 559]; *Phillips v. Detroit*, 111 U. S. 606 [15 Am. & Eng. 269]; *Brown v. Piper*, 91 U. S. 87 [10 Am. & Eng. 272]; *Ah Kow v. Nunan*, 5 Sawy. 552; *Grier v. Wilt*, 120 U. S. 429 [16 Am. & Eng. 558].

Any alteration or modification which involves only the exercise of ordinary mechanical skill does not sanction the patent.

Pa. R. Co. v. Locomotive E. S. Truck Co., 110 U. S. 498 [15 Am. & Eng. 148]; *Blake v. San Francisco*, 113 U. S. 682 [15 Am. & Eng. 535]; *Stephenson v. Brooklyn Cross-Town R. Co.*, 114 U. S. 152 [16 Am. & Eng. 63].

Appellant's claims do not cover combinations.

Thatcher Heating Co. v. Burtis, 121 U. S. 295 [17 Am. & Eng. 37]; *Pickering v. McCullough*, 104 U. S. 317 [13 Am. & Eng. 238].

Opinion of the Court.

Mr. Justice BLATCHFORD delivered the opinion of the Court:

This is a suit in equity, brought by Joseph Aron against The Manhattan Railway Company, in the Circuit Court of the United States for the Southern District of New York, to recover for the infringement of letters patent, No. 288,494, granted to the plaintiff, as the assignee of William W. Rosenfield, the inventor, November 13, 1883, for an "improvement in railway-car gates," the application for the patent having been filed April 3, 1883. The Circuit Court, held by Judge WALLACE, dismissed the bill, and the plaintiff has appealed.

The specification of the patent says: "In many classes of railway cars, and particularly those used upon the elevated and other city railways, it has been found necessary, in order to prevent passengers from falling from the train, and also to prevent persons from attempting to get off or on a car while in motion, to provide the entrances to the car platforms with gates, by which they can be closed except at the proper times. These gates are usually in charge of a guard or attendant, whose duty it is to close the gates before the train commences to move, and to open them only after the train has come to a full stop. As there is usually but one guard or attendant stationed between each two adjoining cars, it follows that to open or close both gates he must pass around from one to the other of the adjoining platforms. This passing from one platform to the other, besides being a source of annoyance to the guard, occasions some delay, which is very annoying to the passengers, particularly at times when a large number are required to get off or on a car in a very short time. It is the object of the present invention, among other things, to provide means by which the guard or attendant can, without changing his position, open or close both gates simultaneously and with the least possible delay. To that end one feature of the invention consists in providing the gates with connections so arranged that any two adjoining gates can be simultaneously opened or closed by the guard while standing in the passageway leading from one of the cars to the other."

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The drawings annexed to the patent represent two ordinary railway cars, with platforms adjoining each other, and the usual entrances from the station platform, and gates of the ordinary construction for closing such entrances. The gates are hinged in the usual manner to posts which rise from the corners of the platforms, and close against the usual jambs which project from the sides of the cars. The platforms are provided with the usual guard-railings, extending inward from the above-mentioned posts to similar posts which are located a sufficient distance apart to leave a passageway from one car to the other. When the gates are thus arranged it is necessary, in order to close or open both gates, for the guard to pass from one platform around the inner post to the opposite platform, thus causing some delay in opening and closing one of the gates, adding to the labor of the guard, and causing annoyance to the passengers. In order to avoid this, each of the gates is provided, at a suitable distance from its hinge, with a curved lever, which extends rearward and terminates a short distance outside of the guard-railing. This lever is connected by a link, *e*, with a rod, *f*, which slides in or on a suitable bearing secured to the guard-railing, and is provided at its inner end with a handle by which it can be operated. The guard or attendant, while standing in the passageway can, by grasping the two handles and pushing or pulling the rods, *f*, open or close both gates simultaneously and without loss of time.

The specification states that the rods, *f*, will preferably be provided with some form of locking mechanism by which the gates can be fastened in their opened or closed positions; and that such locking may be accomplished by having the handles pivoted to the rods, *f*, as shown, and provided with extensions, which can be turned so as to extend in front of the inner posts and hold the gates closed, or so as to lie in the rear of lugs and hold the gates open. It then describes an arrangement whereby the rods, *f*, and links, *e*, may be placed upon the inside of the guard-railings, as well as upon the

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outside; and also an arrangement by which the connections for operating the gates may, if desired, be placed beneath the platforms; and also an arrangement whereby the gates may be so hinged as to lie against the body of the car when open, instead of against the guard-railings; and also an arrangement whereby sliding gates may be used instead of swinging gates.

There are six claims in the patent, only the first five of which are involved in the present case. They are as follows:

"1st. The combination, with a gate arranged to close the side entrance to a car platform, of an operating handle located at or near the inner end of the platform guard-rail, and means connecting said gate and handle, whereby the attendant may open and close the gate while standing at the end of said guard-rail, substantially as described.

"2d. The combination, with gates arranged to close the side entrances to the adjoining platforms of two cars, of operating handles located at or near the inner ends of the platform guard-rails, and means connecting said gates and handles, whereby the attendant may open or close both gates simultaneously while standing at the ends of said guard-rails, substantially as described.

"3d. The combination, with a railway car and its platform, having an end guard-rail, by which a side entrance thereto is provided, of a gate for closing said entrance, a rod, as *f*, sliding in or on guides secured to said guard-rail, and a link, as *e*, connected to said gate and rod, all substantially as described.

"4th. The combination, with a railway car and its platform, having an end guard-rail, by which a side entrance thereto is provided, of a swinging gate for closing said entrance, a rod, as *f*, sliding in or on a guide secured to said rail, a link, as *e*, connected to said gate and rod, and means for locking said gate in its closed position, all substantially as described.

"5th. The combination, with gates arranged to close the side entrances to the adjoining platforms of two cars, of rods,

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as *f*, sliding in or on guides secured to the guard-rails of said platforms, and links, as *e*, connected to said gates and rods, substantially as described."

The opinion of Judge WALLACE is reported in 26 Fed. Rep. 314. The only question he considered was that of the patentable novelty of the improvement, saying:

"A brief reference to the prior state of the art will indicate that the combinations referred to in the several claims are merely an application to a new situation of old devices which had been previously applied to analogous uses. Devices to open and close an aperture at a distance from the operator, in a great variety of forms, were old. As illustrations of those things which are matters of common knowledge, and of which the Court will take judicial notice, it is sufficient to allude to the strap used by the driver at the front of the omnibus to open and close the rear door; to the devices for opening or closing valves at a distance, in steam and hydraulic apparatus; and to the devices used at railway switches for opening and closing the rails.

"Referring to the prior state of the art, as shown by various prior patents which have been introduced in evidence, it appears also that mechanism to open and close the entrance to passenger cars at a point distant from the operator was likewise old; as, where the operator standing upon the front platform employed such mechanism to open or close a door at the rear platform. One prior patent alone, the one granted to John Stephenson, September 15, 1874, shows five methods of closing and opening the rear doors of street cars from the front platform.

"Mechanism for closing and opening apertures at a distance from the operator, in which the same devices were employed as are employed by the patentee, was old, and is disclosed in a number of earlier patents, which have been put in evidence. It will suffice to refer to two only. The patent to Wollensak of March 11, 1873, for an improvement in transom-lifters, describes the means for opening and closing

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the transom as consisting of a sliding-rod, which is connected by a pivoted link to the arm of the transom frame. The patent to Corrigan, granted April 16, 1878, for an improvement in blind-adjusters, whereby outside blinds are opened and closed without lifting the window-sash, describes as the mechanism employed a sliding bar connected by a pivoted link with a hinged shutter. In both of these patents the aperture to be opened and closed at a distance from the operator—in the one case a shutter and in the other a transom—is opened and closed, as is the case in the patent in suit, by pushing or pulling the sliding-rod or bar. In both of these patents there is likewise described a locking device by means of which the sliding-rod or bar is retained in a fixed position, so that the shutter or the transom will remain fastened when opened or closed, at the option of the operator; thus showing opening, closing, and locking apparatus in all essentials like that of the patent in suit. Moreover, the patent to Corrigan shows this apparatus arranged to open and close the two shutters of the window, at the option of the operator, simultaneously, the sliding-bars being so arranged as to be pushed or pulled each by one hand of the operator.

“Mechanism for opening and closing apertures distant from the operator, in which the devices used for the purpose are the mechanical equivalents of those employed by the patentee, is shown to be old by a large number of patents which have been put in evidence.

“This partial exhibit of the prior state of the art demonstrates that what the patentee did was to adapt well-known devices to the special purpose to which he contemplated their application. It was necessary that the gate should swing inward to open and outward to close; that the sliding-rod should be located where it would be out of the way of passengers entering or leaving the platform; and that the end or handle of the rod should be located where it could be conveniently operated by the attendant, without incon-

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veniencing outgoing or incoming passengers. The new situation required adequate modifications of existing devices for opening and closing an aperture at a distance from the operator, appropriate to the new occasion. Accordingly, the patentee located the rods on bearings secured to the guard-rails, with their handles near the passageway formed by the space or opening near the middle of the guard-rail. If this required invention, his improvement was the proper subject of a patent. He did nothing more and nothing less than this. It seems impossible to doubt that any competent mechanic familiar with devices well known in the state of the art, could have done this readily and successfully, upon the mere suggestion of the purpose which it was desirable to effect. When it was done as to one car platform, it was only requisite to duplicate it upon another to make the improvement of the patentee in all its length and breadth.

"The patentee is entitled to the merit of being the first to conceive of the convenience and utility of a gate opening and closing mechanism which could be operated efficiently by an attendant in the new situation. His right to a patent, however, must rest upon the novelty of the means he contrives to carry his idea into practical application. It rarely happens that old instrumentalities are so perfectly adapted for a use for which they were not originally intended as not to require any alteration or modification. If these changes involve only the exercise of ordinary mechanical skill, they do not sanction the patent; and, in most of the adjudged cases where it has been held that the application of old devices to a new use was not patentable, there were changes of form, proportion or organization of this character which were necessary to accommodate them to the new occasion. The present case falls within this category."

We concur in these views, and affirm the decree of the Circuit Court.

Notes and citations.

Notes :

1. Analogous use :

- Collar Co. v. Van Deusen, 23 Wall. 530 [10 Am. & Eng. 156].
Sawyer v. Bixby, 12 Am. & Eng. 332.
Bussey v. Excelsior Mfg. Co., 110 U. S. 131 [15 Am. & Eng. 77].
Pennsylvania R. R. Co. v. Truck Co., 110 U. S. 490 [15 Am. & Eng. 143].
Morris v. McMillin, 112 U. S. 244 [15 Am. & Eng. 310].
Blake v. San Francisco, 113 U. S. 679 [15 Am. & Eng. 535].
Stephenson v. Brooklyn R. R. Co., 114 U. S. 149 [16 Am. & Eng. 63].
Western Electric Co. v. Ansonia Co., 114 U. S. 447 [16 Am. & Eng. 94].
Eachus v. Broomall, 115 U. S. 429 [16 Am. & Eng. 176].
Miller v. Foree, 116 U. S. 22 [16 Am. & Eng. 193].
Dreyfus v. Searle, 124 U. S. 60 [17 Am. & Eng. 446].
Crescent Brewing Co. v. Gottfried, 128 U. S. 158 [19 Am. & Eng. 1].
Peters v. Active Mfg. Co., 129 U. S. 530 [p. 390 *ante*].
Peters v. Hanson, 129 U. S. 541 [p. 408 *ante*].
Day v. Fairhaven, etc. Ry. Co., 132 U. S. 98.
Royer v. Roth, 132 U. S. 201.
Howe Machine Co. v. Nat. Needle Co., 134 U. S. 388.
St. Germain v. Brunswick, 135 U. S. 227.
Consolidated Roller-Mill Co. v. Walker, 138 U. S. 124.
Western Electric Co. v. La Rue, 139 U. S. 601.
-

2. Judicial notice of matters of common knowledge :

- Brown v. Piper, 91 U. S. 37 [10 Am. & Eng. 272].
Terhune v. Phillips, 99 U. S. 592 [12 Am. & Eng. 270].
Sandusky Seat Co. v. Comstock, [13 Am. & Eng. 222].
Slawson v. Railroad Co., 107 U. S. 649 [14 Am. & Eng. 475].
King v. Gallun, 109 U. S. 99 [14 Am. & Eng. 559].

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Notes and citations.

Phillips v. City of Detroit, 111 U. S. 604 [15 Am. & Eng.
269].

Patent in suit :

No. 288,494. Wm. W. Rosenfield. November 13, 1883.
Railway-Car Gates.

OTHER SUITS ON SAME PATENT :

Aron v. Manhattan Railroad Co., 1886. 26 Fed. Rep. 314; 34
O. G. 1508.

Cited :

IN SUPREME COURT IN :

Howe Machine Co. v. Nat. Needle Co., 1889. 134 U. S. 388.
Fond Du Lac County v. May, 1890. 137 U. S. 395.
Consolidated Roller-Mill Co. v. Walker, 1891. 138 U. S. 124.

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OF

DECISIONS OF THE SUPREME COURT OF THE UNITED STATES IN PATENT CASES REPORTED IN THIS VOLUME.

Abandoned Experiment.

See *Invention*, 1.

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Accounting.

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See *Signature to Letters Patent*, 2.

Actual Damages.

See *Damages*.

Admissions.

See *Novelty*, 1.

Analogous Use.

See *Particular Patents*, 1, 13, 24, 37.

Appeal.

1. *Held*, that in view of the statement presenting certain facts which had occurred since the appeal

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was taken, the whole basis and foundation of the present suit had disappeared by reason of the decree of this Court in a former case. *Worden v. Searls*, 121 U. S. 14 [17 Am. & Eng. 16], and the cause should be remanded to the Circuit Court with instructions to allow the appellant, defendant below, to file such supplemental bill as he may be advised, in the nature of a bill of review, or for the purpose of suspending or avoiding the decree upon the new matter arising from the reversal of the decree in the former case. *Ballard v. Searls*..... 440

Article of Manufacture.

See Particular Patents, 5.

Assignments.

1. Where an assignment of certain letters patent was of the assignor-patentee's "entire right, title and interest in and to the letters patent, and in and to the invention and improvements represented * * * therein, including any renewal, reissue or extension thereof," *held*, that the complainant's assignees had a sufficient title to the patents. *Rude v. Westcott*..... 517
2. *Held*, that the concluding provision in the assignment dividing the net profits among the parties thereto, so as to give the patentee one-fourth himself, in no respect modified or limited the absolute transfer of title. *Rude v. Westcott*..... 517
3. The clause in the absolute assignment appointing the assignees attorneys of the grantor, with authority to use his name in the management, does not restrict in any way the power of the assignees after the transfer of the property. *Rude v. Westcott*.. 517
4. Under this assignment, the complainants do not hold the property as trustees for the benefit of the patentee; they are only trustees for him of one-fourth of the profits which may be received by them. *Rude v. Westcott*..... 517

See Specific Performance, 2.

Bill in Equity.

1. A bill by vendee against vender for specific performance, which does not show any title in defendant, is bad on demurrer. *Kennedy v. Hazelton*..... 118

Combination.*Reissue for fewer elements in combination.*

See Particular Patents, 31.

Constitution.

Art. 1, Sec. 8, par. 8. See Repeal of Letters Patent, 4.

Art. 4, Sec. 3, par. 2. See Repeal of Letters Patent, 4.

Construction of Patents.*First in the Art.*

1. Where an invention is one of a primary character, and the mechanical function performed by the machines are, as a whole, entirely new, all subsequent machines, which employ substantially the same means to accomplish the same results, are infringements, although the subsequent machines may contain improvements in the separate mechanisms which go to make up the machine. *Morley Sewing Machine Co. v. Lancaster*..... 263

2. *Held*, that the broad construction claimed for a process patent as a pioneer and foundation invention could not extend the rights of the patentee beyond the composition of matter and processes which, as stated in the patent, embodied his real invention. Within these limits, the patent is entitled to a liberal construction, the patentee being the first discoverer of a process of refining hair. *Béné v. Jeantet*..... 430

See Particular Patents, 19.

Construction of Special Acts.

1. The special Act of February 3, 1887, for the relief of Marsh and Lefever, construed in view of the proviso to have no retroactive effect. *Marsh v. Nichols*.. 98

Construction of Statutes.

Act 1870, § 25. See Term, 3.

R. S. 4883. See Particular Patents, 18; Signature to Letters Patent, 1.

R. S. 4884. See Signature to Letters Patent, 1.

R. S. 4885. See Term, 1, 2.

R. S. 4887. See Term, 3, 4, 8.

R. S. 4888. See Particular Patents, 32.

R. S. 4899. See Right to Use, 2, 4, 5.

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R. S. 4920. See Court of Claims, 1; Repeal of Letters Patent, 1.

R. S. 4923. See Prior Foreign Use, 1.

Act March 3, 1875. See Repeal of Letters Patent, 5.

Contract.

Implied Contract.

See Court of Claims, 2; License, 1, 2.

Court of Claims.

1. While the objection of want of jurisdiction in the Court of Claims may be available as to actions for infringement of a patent, in which its validity may be put in issue, and in which the peculiar defences authorized by the patent laws in R. S. Sec. 4920 may be set up, it is not valid as against actions founded on contracts for the use of patented inventions. *United States v. Palmer*..... 23
2. The question whether a patentee may waive an infringement of his patent by the Government, and sue upon an implied contract, raised but not determined. *United States v. Palmer*..... 23

Damages.

1. "Actual damages must be calculated, not imagined; and an arithmetical calculation cannot be made without certain data on which to make it." *City of New York v. Ransom*, 23 How. 487 [7 Am. & Eng. 88], reaffirmed and followed. *Rude v. Westcott*. 517
2. Where proof was offered to establish a fixed royalty or license fee, *held*, that a payment of any sum in settlement of a claim for an alleged infringement cannot be taken as a standard to measure the value of the improvements patented, in determining the damages sustained by the owners of the patent in other cases of infringement; neither could an agreement be so received as evidence where the charge may be fixed at the pleasure of the owner of the patent. *Rude v. Westcott*..... 517
3. The payment of a sum in settlement of a claim for an alleged infringement of a patent cannot be taken as a standard to measure the value of the improvements patented in determining the damages sustained by the owner of the patent in other cases of infringement. *Cornely v. Marckwald*..... 577

Degree.

See Particular Patents, 36.

Demurrer.

See Bill in Equity, 1.

Disclaimer.

See Novelty, 1; Particular Patents, 25, 29, 30.

Equivalents.

1. The mechanical devices used by the defendant are known substitutes or equivalents for those employed in the Morley machine to effect the same results, and this is the proper meaning of the term "known equivalents," in reference to a pioneer machine, such as that of Morley. *Morley Sewing Machine Co. v. Lancaster*..... 263
- See Particular Patents, 20, 28.

Error.*Clerical Error.*

1. A clerical error is an error of a clerk or a subordinate officer in transcribing or entering an official proceeding ordered by another. *Marsh v. Nichols*... 98
- See Signature to Letters Patent, 2.

Evidence.

1. A patent issued to an applicant is only *prima facie* evidence that he is the inventor. *Kennedy v. Hazelton*..... 118

Fraud.*Sufficient allegations of.*

See Repeal of Letters Patent, 2, 3.

Identity.*Original and reissued patent.*

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Of Processes.

See Process, 1.

Inchoate Right.

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Infringement.

See Construction of Patents, 1; License, 1; Particular Patents, 2, 4, 8, 10, 16, 20, 22, 26, 27, 28, 31, 34.

Invention.

Complete Invention.

- i. Where there had been a public, well-known, practical use in ordinary work, with as much success as was reasonable to expect at that stage in the development of the mechanism belonging to electric arc lighting, of the exact invention which was subsequently made by the patentee, and although only one article like the patented invention was ever made, which was used two and one-half months only, and the invention was then taken from the lamp and was not afterward used with carbon pencils, *held*, that it was a perfected invention and not a mere abandoned experiment. *Brush v. Condit*. 582
- See Particular Patents, 1, 5, 6, 7, 11, 13, 14, 21, 22, 23, 24, 36, 37.

Perfected Invention. See Particular Patents, 35 ; Public Use, 1.

Inventor.

See Evidence, 1.

Original and first. See Particular Patents, 17.

Judicial Notice.

See Notice, 2.

Jurisdiction.

See Court of Claims, 1, 2 ; Repeal of Letters Patent, 5.

License.

Implied License.

1. Where claimant exhibited his devices before a board of officers, whose report, favorable to their adoption, was subsequently approved and carried into effect, and claimant brought suit in the Court of Claims on an implied contract to recover a royalty, *held*, that the Government used the improvements with his consent and the expectation on his part of a reasonable compensation for the licensee, and that it was not a claim for an infringement, but of compensation for an authorized use. *United States v. Palmer*. 23
2. Under this license to use, and the actual use, little or much that ensued thereon, an implied contract for compensation fairly arose. *United States v. Palmer*. 23

See Process, 2.

License-Fee.

1. Where there has been such a number of sales by a patentee of licenses to make, use and sell his patents, as to establish a regular price for a license, that price may be taken as a measure of damages against infringers. *Rude v. Westcott*..... 517

See Damages, 2.

Measure of Damages.

See Damages, 3 ; License Fee, 1 ; Royalty, 1.

Mechanical Skill.

1. To do that which any competent mechanic familiar with devices well-known in the state of the art could have done readily and successfully upon the mere suggestion of the purpose which it was desirable to effect, does not constitute invention. *Aron v. Manhattan Railway Co.*..... 609

See Particular Patents, 6, 24.

Multifariousness.

1. A bill in equity brought to repeal patents is not multifariousness where the patents relate to the same invention, belong to the same parties, and can be conveniently considered together ; and the defendants have a common interest in sustaining the validity of both patents. *United States v. Am. Bell Telephone Co.*..... 36

Notice.

1. Where it was contended that the answer did not contain a sufficient notice under the statute of the defence of want of novelty and two years' public use, in that it did not state the names and residences of the persons by whom and where it was used, *held*, that the object of this statutory requirement is to apprise the plaintiff of the nature of the evidence which he must be ready to meet at the trial, and that this object was substantially fully accomplished by the pleadings in this case. *Anderson v. Miller*..... 224
2. The Court will take judicial notice of matters of common knowledge, such as a strap used by the driver at the front of an omnibus to open and close the rear door, devices for opening or closing valves at a distance in steam and hydraulic apparatus, and devices used at railway switches for opening and closing the rails. *Aron v. Manhattan Rwy. Co.*.. 609

Novelty.

1. A qualified disclaimer *held*, an admission of want of novelty. *Collins Co. v. Coes*. 452
2. Although the patentee may be entitled to the merit of being the first to conceive of the convenience and utility of mechanism for accomplishing a certain purpose, his right to a patent must rest upon the novelty of the means he has contrived to carry his idea into practical operation. *Aron v. Manhattan Rwy. Co.* 609
3. That which infringes, if subsequent to the patent, is an anticipation if earlier. *Brush v. Condit*. 582

Want of Novelty.

See Particular Patents, 5, 9, 11, 21, 30, 35.

Oath of Inventor.

See Validity, 1; Void Patent, 1.

Particular Patents.

1. Claim 1 of Letters Patent, No. 42,580, Holbeck & Gottfried, May 3, 1864, Pitching Barrels, for "The application of heated air under blast to the interior of casks by means substantially as described, and for the purpose set forth," construed to be a claim for the mechanism, and not for a process. The claim distinguished from *Lawther v. Hamilton* (124 U. S. 1; 17 Am. & Eng. 396), and *held*, so far as it is a claim to a process, to be anticipated; and that as a claim for the apparatus it was merely the application of an old apparatus to a new use without any change of its constituent elements or its mode of operation. *Crescent Brewing Company v. Gottfried*. 1
2. Claim 2 for "The use of a movable conductor, *E*, in combination with a furnace and blowing apparatus, arranged and operated substantially as described." *Held*, not infringed by defendant's apparatus, which had no removable conductor corresponding to conductor *E*. *Crescent Brewing Co. v. Gottfried* 1
3. These cases decided in conformity with the *Crescent Brewing Co. v. Gottfried*, 128 U. S. 158, the patent involved being the same, as are also the proofs and conclusions reached. *Gaff v. Gottfried*. 21

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4. Letters Patent, No. 74,342, granted Alvaro B. Graham, February 11, 1868, for an Improvement in Harvesters, construed, and claims 1 and 2; *held*, in view of the state of the art and of the special limitations put upon them on the requirement of the Patent Office, to be limited to the special construction and arrangement set forth in the claims, and are not infringed as limited by defendant's machines, constructed under letters patent, No. 193,770, McCormick, Baker and Erpelding, July 31, 1877, Harvester. *McCormick v. Graham*. . . . 118
 5. Letters Patent, No. 94,062, Ballard & Waddell, August 24, 1869, for an Improvement in Street Pavements, claiming as an article of manufacture a wedge-shaped block having the grain running parallel to one and oblique to the other of its beveled sides, and also a pavement of the same, construed and *held*, that there was nothing materially different in the practical result of having the grain run in this way; and that the form and manner of laying the blocks were both old. *Brown v. District of Columbia* 473
 6. Letters Patent, No. 94,063, Ballard & Waddell, August 24, 1869, Method of cutting Block for Street Pavements, construed to be for the cutting of the block in a particular way and so as to avoid waste, and *held*, to require simple mechanical skill, without involving invention. *Brown v. District of Columbia* 473
 7. The claims in Letters Patent, No. 101,590, granted to Turner Cow ng, April 5, 1870, for a New Mode of constructing Wood Pavement for Streets, for a wooden pavement "composed of blocks, each side having a single plain surface and one or more of the sides being inclined, and the blocks being so laid on their larger ends as to form wedge-shaped grooves or spaces to receive concrete or other suitable filling," construed in view of the state of the art, and *held*, that Cowing's wooden blocks of the same shape as the stone blocks of Lindsay's English patent, No. 5185, June 14, 1825, were nothing more than the substitution of one material for another without involving a new mode of construction, or developing anything substantially new in the resulting pavement. *Brown v. District of Columbia* 473

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8. Letters Patent No. 174,684, T. W. Kendall, March 14, 1876, Cultivator, construed to have as its essential characteristics the rigidity of the runners and the resulting automatic action, and *held*, not infringed by a machine in which the runners were not constructed in the rigid form and the action was not automatic, but required manipulation every time the use was changed. *Pattee Plow Co. v. Kingman*..... 355
9. Claims 1 and 2 of Letters Patent, No. 178,463, granted June 6, 1876, to George M. Peters, for an Improvement in Tools for attaching Sheet-metal Moldings. The substance of the invention consisting in the use of a sheath or holder having in it a longitudinal groove or channel in which is placed the molding which is to be applied to the upper edge of the dash-board. *Held*, to be anticipated by a machine used by Joseph P. Noyes, as early as September, 1867, although the Noyes machine was a comparatively small machine and was used only for applying moldings to combs. *Peters v. The Active Mfg. Co.*..... 390
10. Claim 3, in which washers to render the sheath capable of adjustment formed an element, *held*, not infringed by defendant's apparatus, in which no washers are used for adjustment. *Peters v. The Active Mfg. Co.*..... 390
11. Letters Patent, No. 187,899, H. H. Pattee, February 27, 1877, Cultivator, for constructing the arch of the beam yokes or axles of curved adjacent bars of iron or steel and attaching to their ends by riveting the cast-iron parts for securing thereto the plows and wheels, *held*, in view of the state of the art, wanting in novelty, and also in invention. *Pattee Plow Co. v. Kingman*..... 355
12. Letters Patent, No. 197,314, granted to John J. Bate, November 20, 1877, for Preserving Meats during transportation and storage, for the term of seventeen years, did not expire with the term of the first Canadian patent obtained for five years, but continued in force till the end of the extended term of fifteen years, to wit: January 9, 1882, said Canadian patent having never ceased to exist, but having been in force continuously from January 9, 1877. *Bate Refrigerating Co. v. Hammond*.... 231

13. Claims 1, 2, and 3 of Letters Patent, No. 213,529, granted March 25, 1879, to George M. Peters, for an Improvement in Vehicle-Dashes, relating to the means of adjusting laterally the feet of a dash, consisting in making two holes or a slot in the rail of a dash for receiving a bolt, *held*, to cover merely application for old devices to new uses, not involving invention. *Peters v. Hanson*..... 408
14. There was no invention in providing a bearing surface (Covered by claim 4) upon the frame of the dash, to which the foot of the brace was to be attached to support the brace and dash, either by an increase in the quantity of metal or otherwise, so as to strengthen the proper part, in a proper way, for its proper duty. *Peters v. Hanson*..... 408
15. Claim 3, of Letters Patent, No. 223,338, J. M. Gorham, January 6, 1880, Wash-board Frames "In combination with a wash-board," a protector located below the crown-piece, and between the side pieces of the wash-board frame, and constructed to fold down into or upon said wash-board frame, "substantially as and for the purpose shown," construed and limited to the combination with a protector constructed to bend or yield to pressure and to return to its position when such pressure is removed. *Sargent v. Burgess*..... 198
16. *Held*, not infringed by a wash-board constructed under Letters Patent, No. 255,555, C. H. Williams, March 28, 1882, wash-boards in which the protector has no such elastic or resilient quality, and is not constructed to fold down "substantially as shown." *Sargent v. Burgess*..... 198
17. The conclusion of the Circuit Court (25 Fed. Rep. 906) that Moses C. Johnson was not the first and original inventor of the improvements claimed in Letters Patent, No. 232,975, granted October 5, 1880, to Henry G. Thompson, as assignee of said Moses C. Johnson, for Cutting-Pliers, sustained and the decree affirmed. *Thompson v. Hall*.... 505
18. Letters Patent, No. 236,052, E. A. Marsh, December 28, 1880, Steam Engine Valve Gear, *held*, to have been void at the date of issue owing to the omission of the signature of the Secretary of the Interior prescribed by R. S. Sec. 4883; to have been properly corrected thirteen months later by the

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- signature of the Acting Secretary, who held the office at date of the correction, and to run as to its term from the date of such correction, which, though not written in the patent, could be shown by proof. *Marsh v. Nichols* 98
19. Letters Patent, No. 236,350, granted January 4, 1881, to Joseph H. Morley, for a Machine for Sewing Buttons on Fabrics, etc., is entitled to receive a liberal construction in view of the fact that the inventor was a pioneer in the construction of an automatic button sewing-machine, and is not to be limited to the particular devices or instrumentalities described by him, used in the three main elements of his machine which, combined together, make it up. *Morley Sewing Machine Co. v. Lancaster* 263
20. As thus construed the patent is infringed by defendant's machine, manufactured under Letters Patent, No. 268,369, granted November 28, 1862, to Joseph Mathison, for a machine for sewing on buttons, the means employed in which are substantial equivalents of those used in the Morley machine. *Morley Sewing Machine Co. v. Lancaster*..... 263
21. Letters Patent, No. 256,504, N. Rosenwasser, April 18, 1882. Percolator, *held*, anticipated by a description of the real press in a prior German publication, and also doubted whether it would involve invention even if it were new. *Rosenwasser v. Spieth*..... 215
22. Letters Patent, No. 265,733, granted October 10, 1882, to Robert H. Anderson, for an Improvement in Drawers, not infringed by an article manufactured by the appellees for more than two years prior to the appellant's application for a patent. The question raised whether the patented device involved invention, but not considered. *Anderson v. Miller*. 224
23. Letters Patent, No. 281,553, granted July 17, 1883, to George M. Peters, for an improvement in Dies for making Dash-Frames for Carriages, construed in view of the fact that it was old to use channel irons in making dash-frames, to weld channeled iron to flat or oval bars of iron, and to use dies for swaging or welding together two pieces of iron, and *held* that all that remained to be done in the present case was to adapt the form of the dies to

- the shape desired in the article to be acted upon by them; *held* further that there was no patentable invention in securing such result of welding or swaging, if there be no patentable invention in the construction and use of the dies to produce a given shape in the article acted on by them, which was also well-known. *Peters v. The Active Mfg. Co.*..... 567
24. Letters Patent, No. 288,494, granted November 13, 1883, to plaintiff as assignee of William W. Rosenfield, for an Improvement in Railway-Car Gates, construed in view of the state of the art to be for the application to a new situation of old devices which had been previously applied to analogous uses, and *held* to be for mechanical skill and wanting in invention. *Aron v. Manhattan Rwy. Co.*..... 609
25. Reissued Letters Patent, No. 4364, J. J. Schillinger, May 2, 1871 (orig. 105,599, July 19, 1870), Concrete Pavement, construed in view of the disclaimer to consist in dividing the pavement into blocks, so that one block can be removed and repaired without injury to the rest of the pavement, the division being effected by either a permanent or a temporary interposition of something between the blocks. *Hurlbut v. Schillinger*..... 542
26. The use of a bottom layer of coarse cement, and placing on it a course of fine cement, and dividing the upper course into blocks by a trowel run partially or wholly through the upper course while it is plastic, in a line coincident with the joints between the sections in the lower layer, accomplishes the substantial results of Schillinger's invention, in substantially the way devised by him, and is within the patent as it stands after the disclaimer. *Hurlbut v. Schillinger*..... 542
27. The first claim of the reissue, as it stands after the disclaimer, is infringed, because the defendant's pavement is a concrete pavement, laid in detached blocks or sections, substantially in the manner shown and described in the specification of the reissue, the detached blocks in the upper course being the equivalent of the detached blocks or sections of the Schillinger pavement. *Hurlbut v. Schillinger*..... 542

28. The second claim of the reissue is infringed, because the temporary use of the trowel or cutting instrument, to divide the upper course into blocks, is the equivalent of the tar-paper of the Schillinger patent, the cutting making a division which controls the cracking, and facilitates the taking up and relaying of the blocks or sections in the upper course "without disturbing the adjoining sections," and the trowel being interposed to effect its object during the process of forming the pavement on the spot where it is to remain. *Hurlbut v. Schillinger*..... 542
29. Where the reissue was granted within ten months after the original; the single claim of the original was repeated in the reissue as the second claim; and all objectionable matter inserted in the first reissue claim when granted had been removed by a disclaimer; and the first reissue claim as it stood after the filing of the disclaimer did not expand beyond the claim in the original what was claimed in the reissue; *held*, that the reissue, No. 4364, May 2, 1871, John J. Schillinger, Concrete Pavements, as it stood after the filing of the disclaimer (March 1, 1875), was not open to the objection that it was not for the same invention as that of the original patent, No. 105,599, dated July 19, 1870. *Hurlbut v. Schillinger*..... 542
30. Reissued Letters Patent, No. 5294, to Lucius Jordan and Leander E. Smith, February 25, 1873, for an Improvement in Wrenches; original, No. 50,364, October 10, 1865, construed in view of disclaimer, which admits the want of novelty of the second claim, and *held*, to be anticipated by the patent, No. 2054, to Loring Coes, April 16, 1841, and by the wrenches known as the "Hewitt" wrenches, manufactured in 1851-4, and to be void for want of patentable novelty. *Collins Co. v. Coes*..... 452
31. Reissued Letters Patent, No. 6080, J. H. Pattee, October 6, 1874, Cultivator, construed in view of original, No. 124,218, March 5, 1872, to be for the omission of an element in the original combination of five parts, by treating two elements of the original as a single element in the reissue, and *held*, by thus reducing the number of elements, to render its scope less narrow than that of the origi-

- nal; and *held*, also, that the omission of an element in the second claim was an illegal enlargement of the claim. *Held*, further, that if valid, when limited to what alone could be claimed as new, in view of the state of the art, the reissue is not infringed. *Pattee Plow Co. v. Kingman*..... 355
32. Reissued Letters Patent, No. 8637, granted March 25, 1879, to John Béné, for an Improvement in the Process of Refining and Bleaching Hair, *held*, under R. S. Sec. 4888, except as to the second claim, not full and clear enough to give one skilled in chemistry such an idea of the particular kinds and character of the chemicals, or combination of chemicals, with the relative proportions of each, as would enable him to use the invention without having to resort to experiments of his own to discover the ingredients. *Béné v. Jeantet*..... 430
33. The patent limited to the second claim is to be construed as one for a process of refining hair by treating it in a bath composed of a solution of chlorine salt dissolved in an excess of muriatic acid, and the claims are to be limited accordingly. *Béné v. Jeantet* 430
34. Thus limited and construed, the patent is not infringed, and the allegation that the product cannot be produced except by treating the bath composed of chlorine salt dissolved in an excess of muriatic acid, or a solution of their (chemical) equivalents, is not established. *Béné v. Jeantet*.. 430
35. Reissued Letters Patent, No. 8718, Charles F. Brush, May 20, 1879 (original No. 203,411, May 7, 1878). Electric lamps, *held*, anticipated by a prior perfected invention, which if subsequent would have infringed the claims, and capable of producing the results sought, although not as thoroughly, and having its mechanism necessarily concealed from view during its legitimate use. *Brush v. Condit*.. 582
36. *Held*, that the improvement of a circular clamp for holding a carbon pencil in an electric lamp over a rectangular clamp to hold a square pencil was only a question of degree in the use of substantially the same means. *Brush v. Condit*..... 582
37. Claims 1, 2, 3, and 11 of reissue of Letters Patent, No. 9891, granted October 11, 1881, to George M. Peters, original 224,792, February 24, 1880, for an Improve-

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- ment in Vehicle-Dash Frames, which relate to channeling or recessing the rail or bar so that the metal on each side of the channel will be thicker than the metal at the recess, *held*, to be old in the state of the art of working metals, and to be for the application of old devices to new uses not involving invention. *Peters v. Hanson*. 408
38. Reissue No. 10,155, July 11, 1882, construed. The claim in the original Letters Patent, No. 231,104, granted August 10, 1880, to Michael Runstetler, for an Improvement in Corn-Planters, construed and limited to a mechanism consisting of a slotted lever connected with the runner-frame by a bolt, and the hand lever mounted upon a shaft journaled at one end to the main frame and at the other end to the seat-standard, thereby facilitating the depression of the runners by a single movement. *Farmer's Friend Mfg. Co. v. Challenge Corn-Planter Co.*. 86
39. The enlargement of the above claim of the original patent to claims in reissue, No. 10,155, granted July 11, 1882, such as to embrace machines not containing the feature to which the claim in the original patent is limited, is void under the rules established by the recent decision of the Supreme Court. *Farmer's Friend Mfg. Co. v. Challenge Corn-Planter Co.*. 86

Patents.

1. A patent for an invention conveys nothing which the Government owns or its predecessor ever owned; it is the evidence of the inventor's exclusive right, and creates for him, when issued, a property interest, which Government secures to him by a grant. Prior to issue there is no property right in it, that is, no such right as the inventor can enforce. *Marsh v. Nichols*. 98
- See Evidence, 1.

Prior Foreign Patent.

See Term, 1-8.

Prior Foreign Use.

1. Where testimony of a pavement used in Germany was introduced to show prior public use, *held*, that it was clearly inadmissible under R. S. § 4923.

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because it did not show anything that had been patented or described in a printed publication. *Hurlbut v. Schillinger*..... 542

Prior Publication.

See Particular Patents, 21.

Process.

1. The fact that a particular product corresponded in the qualities sought with the product produced according to the patented process, *held*, not sufficient, in the absence of preponderating evidence, to establish that both products resulted from the same method, or equivalent method, of preparation, and that, as a consequence, the process was infringed. *Béné v. Jeantet*..... 430
2. A person who subsequently discovers a new mode of carrying out a patented process is not entitled to use the process without the consent of the patentee. *Morley Sewing Machine Co. v. Lancaster*. 263

See Construction of Patents, 2 ; Particular Patents, 1, 32, 33, 34.

Product.

See Process, 1.

Profits.

1. Where the patent was void when the suit was brought, pending which it was rendered valid, *held*, that there could be no accounting for profits earned subsequently to the suit, which was not tenable at the date of its commencement. An accounting for such profits after suit can be demanded only where the infringement complained of took place previously and continued afterwards. *Marsh v. Nichols*..... 98
2. *Held*, that a bill for an account of profits could not be maintained against defendant for the use of the patent, as there can be neither legal nor equitable ownership of a void patent. *Kennedy v. Hazelton*. 118
3. Where it clearly appeared that defendant's infringing concrete flagging derived its entire value from plaintiff's patented invention, and that if it had not been laid in that way, it would not have been laid at all, the rule was applied that "when the

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entire profit of a business or undertaking results from the use of the invention, the patentee will be entitled to recover the entire profits, if he elects that remedy." *Hurlburt v. Schillinger*..... 542

Public Use.

1. Where the mechanism of the anticipating device was such as to be necessarily concealed from view during its legitimate use and would not operate as perfectly as that of the patented invention, *held* that this was no concealment or use of the device in secret, and that it was a complete invention capable of producing the result sought to be accomplished, although not as thoroughly. *Brush v. Condit*..... 582

Reissue.

1. It is well settled that a reissue can only be granted for the same invention intended to be embraced by the original patent, and the specification cannot be substantially changed, either by the addition of new matter or the omission of important particulars, so as to enlarge the invention as intended to be originally claimed. *Pattee Plow Co. v. Kingman*..... 355

See Particular Patents, 25-39.

Repeal of Letters Patent.

1. A suit by bill in equity, for the repeal of Letters Patent for fraud, is not superseded by the remedy provided in R. S. Sec. 4920; because the broad and conclusive effect of a decree to repeal a patent is so widely different, so much more beneficial, and so much more likely to secure complete justice than any defence made by an individual infringer, that it is impossible that Congress, in granting certain rights to the individual, intended to supersede or take away the more enlarged remedy of the Government. *United States v. Am. Bell Telephone Co.*..... 36
2. Allegations in a bill of circumstances to show that the inventor-patentee, Bell, was aware at the time he filed his specifications, asserted his claims, and procured his patent that the same matter had been previously discovered and put in operation

- by other persons, are sufficient allegations of such fraud upon the public, that the monopoly of the patents ought to be revoked and annulled; and amount to a charge that he knew he was not the first inventor, and that his efforts to procure the patent were fraudulent, because he was aware that he was obtaining a patent to which he was not in law or equity entitled. *United States v. Am. Bell Telephone Co.*..... 36
3. It is not essential in setting out in the bill facts constituting fraud that all the evidence to prove fraud should be recited; a fair statement of the main facts constituting the fraud, so as to put the defendant upon his guard and apprise him of what answer may be required of him, is sufficient. *United States v. Am. Bell Telephone Co.*..... 36
4. The constitutional grants of power to Congress to legislate upon patents for lands (Art. 4, Sec. 3, Par. 2), and for inventions (Art. 1, Sec. 8, Par. 8), are substantially alike, and such patents are of the same nature, character and validity, and imply in each case the exercise of the power of the Government, according to modes regulated by Acts of Congress. *United States v. Am. Bell Telephone Co.*,..... 36
5. Under the Act of March 3, 1875, the Circuit Courts have cognizance of all suits at law or in equity where the amount in dispute is sufficient, and the general powers of a Court in equity include the right to annul and set aside contracts or instruments obtained by fraud, to correct mistakes in them, and to require their delivery for cancellation or correction. *United States v. Am. Bell Telephone Co.*..... 36
6. In England the repeal of a patent for an invention might be by a bill in Chancery, or by *scire facias* in a Court of Chancery or in any proper Court. *United States v. Am. Bell Telephone Co.*..... 36
7. The English practice grows out of royal prerogative, of which there is nothing corresponding in this country, where all patents issue under the authority of the United States. *United States v. Am. Bell Telephone Co.*..... 36
8. The only authority competent to set a patent aside, or to annul it, or to correct it, for any reason

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- whatever, is vested in the judicial department of the Government; and this can only be effected by proper proceedings taken in the Courts of the United States. *United States v. Am. Bell Telephone Co.*..... 36
9. In the various suits for the cancellation of patents for lands, such patents have been repealed for fraud, error, or mistake; and the same is not limited to cases in which the United States has a direct, pecuniary interest. *United States v. Am. Bell Telephone Co.*..... 36
10. Both in the case of land patents and patents for inventions, the essence of the right of the Government to interfere, is the obligation to protect the public from a grant procured by fraud. *United States v. Am. Bell Telephone Co.*..... 36
11. In *Mowry v. Whitney*, 14 Wall. 434 [8 Am. & Eng. 506], although the Court was called upon only to decide that an individual could not bring a suit to repeal a patent, the reason given for so doing must be held to establish the principle that the individual could not bring such suit, because the Government alone could do so. *United States v. Am. Bell Telephone Co.*..... 36
12. The United States, in granting patents to Bell, if the same were granted improperly, took away enormously valuable rights from the people, and conferred them upon the patentee. The Government that did this wrong to the people certainly had the right to correct the error of its own officers, and the way for doing so seems clearly to be by suit in equity. *United States v. Am. Bell Telephone Co.*..... 36
13. While a patent of the United States, whether for land or for an invention, can be attacked, for defects upon its face, only by regular proceedings instituted for that purpose, and is not open to collateral attack, except where specially provided by statute, this rule applies only to such patents as have been in fact executed and where the authority of the officers to issue the same was complete. *Marsh v. Nichols*..... 98

Right to Use.

1. The Government of the United States has no right to use a patented invention without compensation

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to the owner of the patent. <i>James v. Campbell</i> , 104 U. S. 356 [13 Am. & Eng. 341], reaffirmed.	
United States v. Palmer.....	23

Right to Use Prior to Application.

2. R. S. Sec. 4899 clearly defines four classes of persons who shall have the right to use, and to vend to others to be used, a specific patentable machine, obtained before the inventor's application for patent :
 - 1st. He who purchases the machine of the inventor.
 - 2d. He who constructs it with inventor's knowledge and consent.
 - 3d. He who sells, and,
 - 4th. He who uses a machine constructed with inventor's knowledge and consent.

Wade v. Metcalf..... 253
3. But after a machine has been constructed by any person, with the inventor's knowledge and consent, before the application for a patent, every other person who either sells or uses that machine is within the protection of the section, and needs no new consent or permission of the inventor. *Wade v. Metcalf*..... 253
4. Where the machines of plaintiff's invention were constructed with his knowledge and consent, and prior to his application for patent, by a partnership of which he and the defendants were the members, and were used by defendants after the dissolution of the partnership, *held*, that defendants clearly came within the fourth class R. S. Sec. 4899. *Wade v. Metcalf*..... 253
5. The question raised, but not determined, whether a sale or license from an inventor, prior to his application, to two or more partners or tenants in common, confers upon each a right to use and to sell the subject of the sale or license, bringing them within the second class of persons defined in R. S. Sec. 4899. *Wade v. Metcalf*..... 253

Inventor's Right to Use His Invention.

1. Where a certain advantage was said to arise in the use of patentee's invention, of which nothing was said in his specification, *held*, that if it was an

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advantage directly following from the alleged invention as described, he was entitled to the benefit of it, whether he perceived it or not. *Brown v. District of Columbia*..... 473

Royalty.

1. In order that a royalty may be accepted as a measure of damages against an infringer, who is a stranger to the license establishing it, it must be paid or secured before the infringement complained of; it must be paid by such a number of persons as to indicate a general acquiescence in its reasonableness by those who have occasion to use the invention; and it must be uniform at the places where the licenses are issued. *Rude v. Westcott*..... 517
See Damages, 2; License, 1.

Secret Invention.

See Public Use, 1.

Signature to Letters-Patent.

1. The signature of all the officers named in R. S. Sec. 4883 must be attached to the patent, or it will be an incompleated document, and therefore ineffectual to confer "The exclusive right to make, use or vend the invention" of R. S. Sec. 4884; and the omission of one signature is no more permissible than the omission of all. *Marsh v. Nichols*..... 98
2. *Held* that while the failure of the Acting Secretary of the Interior to sign a patent was not a mere clerical error, but an omission of a signature essential to the creation of the instrument as a patent, the power of the Department to prevent the consequences of inadvertences and mistakes in its officers extend so far as to remedy such omission; but the correction must be made by the existing officers of the Department, not by former officers who have gone out of office. *Marsh v. Nichols*.. 98
3. It is always open to show that a patent produced in evidence, whether in an action at law, or a suit in equity, in support of a claim or defence was never signed by the officers whose names are attached to it, or when they were in office, or at the time stated. *Marsh v. Nichols*..... 98
See Particular Patents, 18; Term, 2.

Specific Performance.

1. A Court of Chancery cannot decree specific performance of an agreement to convey property which has no existence, or to which defendant has no title. *Kennedy v. Hazelton*..... 118
2. Where plaintiff brought a bill in equity to enforce the specific performance of an agreement to assign a patent, with intent to evade which agreement defendant had procured the patent (No. 349,039, Goulding, September 14, 1886, Steam Boiler), which was his own invention, to be obtained on the application under oath of a third party, and assigned to him, the defendant; *held*, that as a patent thus obtained conferred no title or right upon the patentee, or his assignee, the defendant, a Court of Equity would not order the latter to assign it to the plaintiff, and also because its only possible value or use to the plaintiff would be to enable him to impose upon the public by asserting rights under a void patent. *Kennedy v. Hazelton*. 118

See Bill in Equity, 1.

Specification.

Insufficient description of process.

See Particular Patents, 32.

Statutory Notice.

See Notice, 1.

"Substantially as Shown."

See Particular Patents, 15.

Substitution of Material.

Substitution not involving invention.

See Particular Patents, 7.

Term.

1. R. S. Sec. 4885, which declares that "Every patent shall bear date as of a day not later than six months from the time at which it was passed and allowed, and notice thereof was sent to the applicant or his agent," is intended to prescribe the date on which a patent would begin to run. *Marsh v. Nichols*..... 98
2. Where an omission in a patent of a signature essential

- to its validity was corrected at a date subsequent to the issue of the patent, but the date of correction did not appear, *held* that the later date which was the true date from which the patent would begin to run, being more than six months (R. S. Sec. 4885) after the date written in the patent, could be shown by proof. *Marsh v. Nichols*.... 98
3. The provisions of the Act of 1870, Sec. 25, and of the Revised Statutes, Sec. 4887, mean that the United States patent shall not expire so long as the foreign patent continues to exist, not extending beyond seventeen years from the date of the United States patent, but shall continue in force, though not longer than seventeen years from its date, so long as the foreign patent continues to exist. *Bate Refrigerating Co. v. Hammond*.... 231
4. Under R. S. Sec. 4887, although the United States patent may on its face run for seventeen years from its date, it is to be so limited by the Courts, as a matter to be adjudicated on evidence *in pais*, as to expire at the same time with the foreign patent, not running in any case more than seventeen years; but, subject to the latter limitation, it is to be in force as long as the foreign patent is in force. *Bate Refrigerating Co. v. Hammond*.... 231
5. Where the Canadian statute under which the extensions of the Canadian patent were granted, was in force when the United States patent was issued, and also when that patent was applied for, and where, by the Canadian statute, the extension of the patent for Canada was a matter entirely of right, at the option of the patentee, on his payment of a required fee, and where the fifteen years term of the Canadian patent has been continuous and without interruption, the United States patent does not expire before the end of the fifteen years' duration of the Canadian patent. *Bate Refrigerating Co. v. Hammond*..... 231
6. The time of the expiration of the foreign patent may be shown by evidence, *in pais*, whether it be the record of the foreign patent itself showing its duration, or other proper evidence. *Bate Refrigerating Co. v. Hammond*..... 231
7. While it may be proper in a case where the date of a foreign patent issued prior to the granting of a

United States patent to the same patentee for the same invention is made known to the Patent Office prior to the granting of the United States patent, to insert in that patent a statement of the limitation of its duration in accordance with the duration of the foreign patent, it does not affect the validity of the United States patent if such limitation is not contained on its face. *Bate Refrigerating Co. v. Hammond*..... 231

8. The question raised but not determined, whether the words in R. S., Sec. 4887, "first patented or caused to be patented in a foreign country," mean "first patented or caused to be patented" before the issuing, granting or date of the United States patent, or whether they mean "first patented or caused to be patented" before the date of the application for the United States patent. *Bate Refrigerating Co. v. Hammond*..... 231

See Particular Patents, 12.

Trustee.

See Assignments, 4.

Validity.

1. The patent law makes it essential to the validity of a patent that it shall be granted on the application, supported by the oath, of the original and first inventor. *Kennedy Hazelton*..... 118

Void Patents.

1. A patent which is not supported by the oath of the inventor, but applied for by one who is not the inventor, is unauthorized by law, and void; and whether taken out in the name of the applicant or of any assignee of his, confers no rights as against the public. *Kennedy v. Hazelton*..... 118

See Particular Patents, 1, 5, 6, 7, 9, 11, 13, 14, 18, 21, 22, 24, 30, 31, 35, 37; Profits, 1; Specific Performance, 2.

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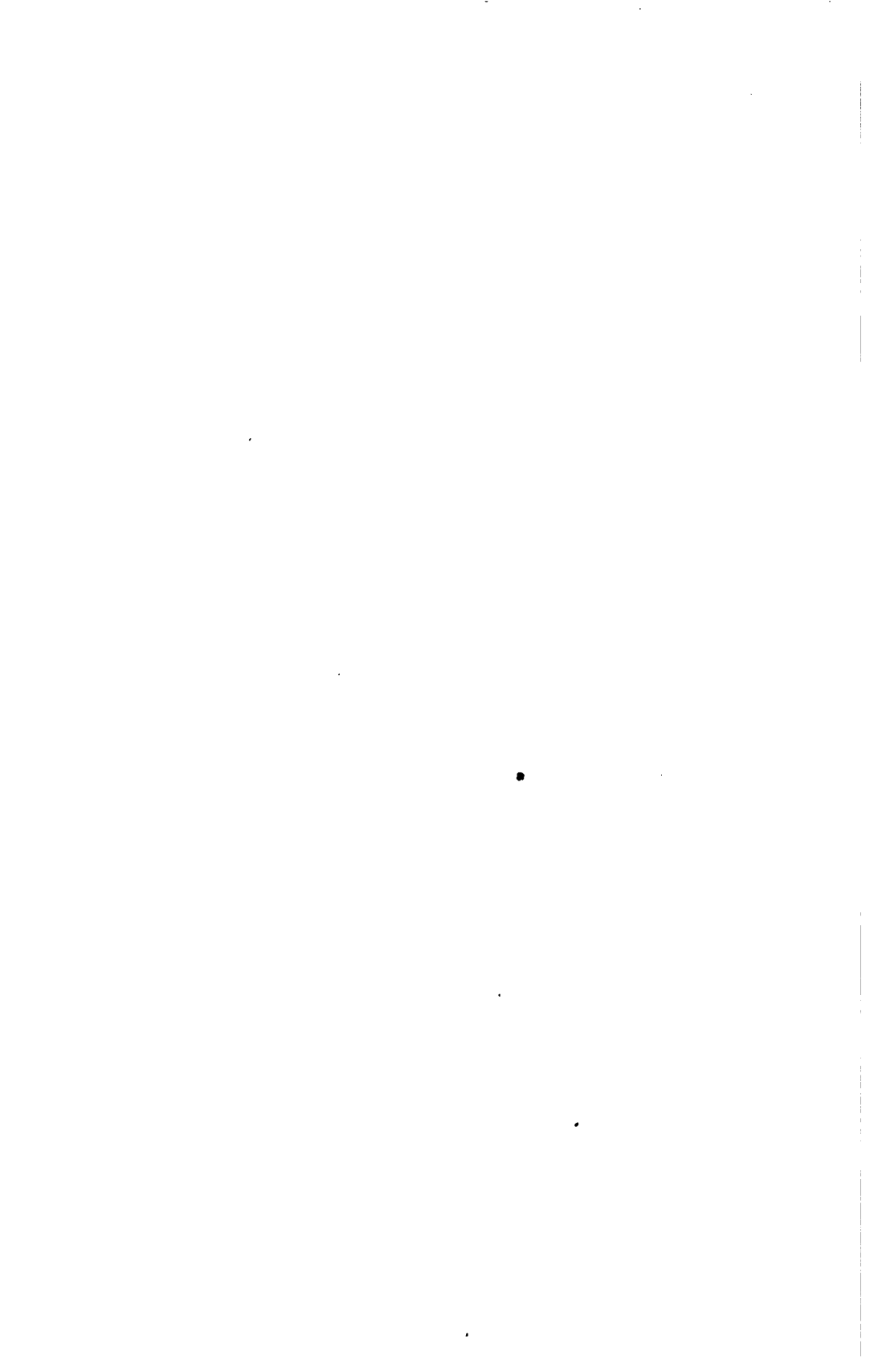
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